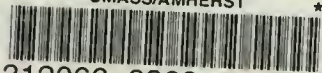


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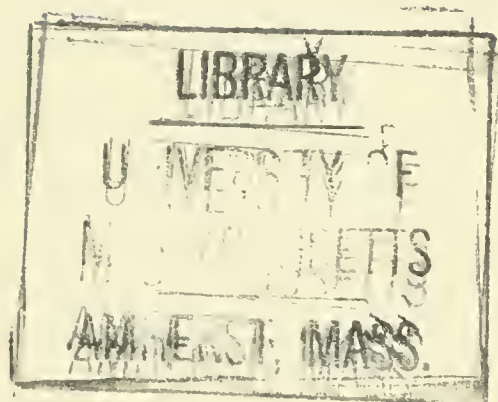


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THE
AMERICAN FARMER,

CONTAINING

ORIGINAL ESSAYS AND SELECTIONS

ON

Rural Economy
AND INTERNAL IMPROVEMENTS,

WITH

Illustrative Engravings

AND THE

PRICES CURRENT OF COUNTRY PRODUCE.

JOHN S. SKINNER, EDITOR.

*"O fortunatos nimium sua si bona norint,
"Agricolae.".....VIRG.*

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CONTENTS OF VOL. I.

A.

- ACCOUNTS** of Agricultural expenditures should be kept, 105.
- ADVERTISEMENTS** of Seeds, implements of husbandry, &c. 8, 16, 24, 32, 64, 200, 256, 328, 360, 384, 416.
- ADVICE** to a young tradesman, 200
- AGRICULTURE**—little done for it in England, until the reign of Elizabeth; comparative resources of the state of New-York, 30 advantages of draining, 43 should be pursued on steady principles, 122—Virginia, defective, 170—English, 247—**Mr. Strickland's** view of American 292—the slow progress of, to what attributable, 251—New-York legislative encouragement to, 155—the most profitable of all pursuits, 186—the alchymists of, 402.
- Roman*, by Gibbon, 88—*Athenian*, from Anacharsis' Travels, 92, 100—*American*, by De Witt Clinton, 107.
- Treatise on; of its rise and progress 74—its actual state in Europe, 75, 139—Spanish, causes of its decline, 140—French, defective, though profitably pursued, 140—theory of vegetation; experiments, 153—of air and its agency, 165—light, heat and electricity, stable manure, lime, marl and gypsum, 166—practical agriculture and necessary instruments, 180—management and application of manures, 186—tillage, and the principles on which it is founded, 284—rotation of crops; European practice, 293—Strickland's description of American; rotations recommended 292—potatoes, rye and turnips, how to cultivate 303, 4; barley, clover and wheat, an account of, and how to cultivate, 307—of peas, 308—Indian corn, 315—beans, oats and buckwheat, 316—plants useful in a rotation of crops adapted to our climate, viz: madder, woad, saffron, the poppy, cole, palm-christi, the sun-flower, flax, hemp, 363—small-wort or dog's bane; New-Zealand flax, 364—of meadows; natural, how to treat—artificial, do. &c. 380.
- AGRICULTURISTS**—too indifferent, should study, experiment and communicate, 335.
- AGRICULTURAL**; inquiries proper to be made, as to the practice of foreign countries 142; experiments 153; conditions of the lower counties of Maryland, 98.
- AGRICULTURAL SOCIETIES**; ought to be established; their best objects 107; a gentleman of chymical science should be attached to each, 265; ought to receive legislative encouragement, 360.
- Of Massachusetts; thanks to G. W. Barrell, for presents 64; address of Hon. Josiah Quincy to, 377; Brighton cattle show 220.
- Of NEW-LONDON, Conn; address by Thomas S. Perkins 385; officers 387; when instituted 400.
- Of NEW-YORK COUNTY, constitution of, 286; RANSELAER COUNTY, fair 208.
- Of MARYLAND address of the Committee; apprehend the inadequacy of their constitution to effect the ends proposed; recommend county societies; advantage to be derived from communication 27; all professions dependent on agriculture; its principles little studied, 28; form of a constitution for county societies recommended 53; meeting to be held; compliment to the Eastern branch 64; address of the Hon. R. Smith.

- 132; of Virgil Maxey; proceedings and premiums bestowed 329—Joseph E. Muse, on the *modus operandi* of plaster, 338.
- OF PRINCE GEORGES' COUNTY - Laws, &c.; address of the president, 115—of the vice-president, 121—William Hebb's report, 124—experiment in planting corn, 303 president's address; when established, 291.
- Of St. MARY'S-COUNTY—address by A. Fenwick, Esq. 185—constitution of, 241.
- OF VIRGINIA—Thomas Griffin's paper to, on kelp as a manure, 84—William Merriwether's description of the growth of wheat, 126; of an improved harrow, from the memoirs of the society, 112—Nicholas', William C. paper on the culture of Indian corn, 30—Edward Irby's, on the mode of applying plaster, 207 Colonel J. Taylor's on the cultivation of artificial grasses, 257—memorial of the delegates from the several societies to Congress, against protecting duties, 347.
- Of ALBEMARLE COUNTY; rules and regulations 262; president Madison's address to 161, 177—premiums offered 27—proceedings of and election of officers, 274; J. H. Cocke to, on the Hessian fly 296; method of securing fruit trees from the fly 350; on manuring for wheat 331—Thos. M. Randolph, on the bott fly of horses 315; P. Minor's experiment with corn cobs, as food for cattle, 324; on stone fences, 359; on subterraneous drainings, 308 Benjamin Coleman, on manuring for turnips, 344 Hon. Jas. Barbour's experiments with wheat, 301.
- Of FREDERICKSBURG, (Va.) address of Jas. M. Garnett to, 361—memorial against protecting duties, 332.
- Of SOUTH CAROLINA—constitution of, 217—General Davie's address before, 218; Curator's report, 226, 353—correspondence, 354, 356.
- Of WILLIAMSBURG, (S. C.)—constitution of, 365.
- Of TENNESSEE; general report of a committee, suggesting the proper subjects for its notice and attention, 209.
- Of TRUMBULL COUNTY (Ohio)—articles of association and by-laws, 295.
- ALMANACS** plan of a perpetual, 60—Poor Richard's, 248, 256.
- AMERICAN** domestic cookery, preface to 345—Farmer, recommended, 355—complimented, 382—Hemlock, described, 287—Tokay, receipt to make, 335—composition approved, 367.
- Tourists, in foreign countries, hints to, 141
- AMUSEMENT**—Sketch of English manners, 5: epigrams: anecdotes, 6; Greenlanders, a new tribe, surfeit of love, 7; new disposition of public buildings in London, 14; laconic epistles; ready answers to short queries; cold people, 16: strictures on the gardener's hive, 29; Lopez de Vega, the Shakespear of Spain unable to explain his own sonnet, 39—why is a gardener the most extraordinary of men? 53—Anagram, 56: Charles 2d and the sailor, 64; Frederick (Md.) county, superstition, 68; derivation of the word "*Carsel*" 70—the Irishman, a fragment, Garrick, Lord Chesterfield, Buck the player, and Sterne, 144; curious circumstance, the Circassian fair, 112 the Persian ambassador, 128; corn planters' grievances, 16—humour, 152: English summer, 157: sudden death, 168: Peter Puff's advertisement, Dunstable and Leghorn, 240; singular custom, 247; female beauty and ornaments, 266; transmigration of souls, 400: aerial combat, 184.
- ANDERSON, J.**; on the management of a dairy, 137.
- ANEMONE**, on the, by Darwin, 32.
- ANGOLA** Goat, importation of into France, 367.
- ANIMALS**: parallel between large and small, which the better, 202 form, early maturity, constitution, quality and tendency to grow, subjects to be considered, 203: disposition to fatten, and how to ascertain it, 204.
- ARATOR'S** notice of a New England plough, 265.
- ARMSTRONG, Gen. John's**, method of extirpating the Canada thistle, 70.
- ARTS**, the; summary of their progress in France, 224.
- AQUEDUCT**, contemplated for New-York, 224
- AXLE**, moveable: W. Ackerman's ingenious invention, 22.

B.

- BACON**, best method of making, 325: skippers in, how to destroy, 127.
- BACTARIAN** camel, described—his use if naturalized, 113.
- BANK Notes**—legal decision respecting; the *bona fide* owner of a half bill entitled to recover, 198.
- Savings of Boston, 24.
- BANKS**, New-Jersey—amount of capitals and tax, 14
- BARBERRY** bush, fatal to wheat, 109
- BARBOUR, James, Esq.'s** experiment with wheat, 301.
- BARLEY**—a good fallow crop—how to cultivate, 318—an excellent renovator of land—Baltimore, a good market for, 397, 415—broth from, its use and how to make, 213.
- BARNEY, Mr.**—raiser of the Columbus and Delaware Ox, 3—ditto, of—seventeen extraordinary sheep—his farm, 11.
- BEANS**—clayey soils best for—suitable vegetable to commence a course of crops with, 316
- BED Bugs**—(cimex lectularius) a humorous account of, how to guard against, and receipts to destroy, 397.
- BEEF**, ginger—how to make, 103—spruce, do. 344, 360—persimmon, do. Mr. Jefferson's receipt, 22—how to clarify, 240.
- BEEES**; how to obtain their honey without destroying the insect, 92—the principal one, a female, 94.
- BEE** hives, infested by a net worm, 266
- BEEVES**—notice of four fine ones, 416—Tongues—how to cure, 362
- BIOGRAPHY**—honorable notice of colonel John E. Howard and general Otho Williams, 215.
- BISCUIT**, Naples—how to make, 92
- BLACK** tea—notice of a work on the importance of its trade, 223.
- BLAIKI**, Francis, on the smut in wheat, 269
- BLAND, Theodorick, Esq.'s** description of the work of Maypu, 92—of the Bactarian camel, 113.
- BOATS**—an improvement for propelling by horse power, 159.
- BOND**, Thomas E.'s method of exterminating garlic, 20—efficacy of his method questioned, 49—preference given to winter ploughing, 350.
- BONES**, used as manure, 375
- BOCANICAL Garden**—the first established in the middle states. 110—one recommended to be established in Baltimore, 335.
- Register, sketch of a,

BOTANY---a knowledge of useful in farming,	74	COCKE, J. H. Esq. on the Hessian fly, 296; applies tobacco at the roots of fruit trees to preserve from the fly, 350---on manuring for wheat	331.	---Illustrative of the growth of wheat	126
BOWIE, Robert, Esq's. experiments with, and remarks on Chili wheat, 194.		COFFEE nut tree; or pea locust of the west: pods sent to the editor 391, 412.		---A box to secure plants in for importation	143
BRANDY Peaches---French method of making,	22	COGITATIVUS, on domestic industry 206, 214, 216, 230, 246, 250, 264, 272, 280---(See domestic industry and economy.)		---Chilian mode of irrigating for wheat	157
BREAD stuff farm combined with high-land meadows---plan for the management of, 261.		COLMAN, Benjamin; on manuring for turnips	344.	---A gate and apparatus for hanging	182
BRIEF comment on an old proverb,	13	COMMENT, brief---on an old proverb	12	---The scull-cap, true and spurious	234
BRIGGS', Isaac, letters to the secretary of the Virginia board of public works, detailing minutes of a survey for a western road, 222.		COMPOST, from oyster shells, described, and how to imitate, 402: how to collect 58.		---Stiles' improved rotary engine	243, 244
BRIGHTON (Mass.) cattle show---notice of the committee, 220.		CONDEMNED Malefactor: remarkable confession of a 101.		---A one horse clover rake	254
BROWN, David E., on the symptoms, effects and cure of the sore tongue in cattle and horses, 326		CONSTITUTION of the Pennsylvania society for encouraging domestic Manufactures, 196: of the Agricultural society of Williamsburg, S. C. 365.		---Iron and wooden do.	279
---Dr. S.'s observations on Guinea grass,	163	COOKERY, American domestic: miscellaneous observations on house-keeping, &c. 345.		---Contrivance for feeding sheep	270
BUCKWHEAT grows any where---is excellent as a manure---very productive and good for poultry, 317.		CORN, Indian: time and method of planting 39, 65, 201: kind of, number of seed in a hill, 39---preference given to the long narrow grained gourd seed: objections to, obviated by the suggestion of a ready method of artificially curing 40: stock and husks of, should be brought home for feed and manure 57: is a great exhauster and should not be repeated 66: the best crop after trenching 66: T. S. Lee 123 and Wilson C. Nicholas 130, on the culture of---experiment on early cutting, sanctioned and approved 131---to be avoided on exhausted lands		---American hemlock	286
BUTTER---to prevent a bitter taste, 31, 64: rancid to purify, 70: on the making and curing of, 137		---201: rapid culture of 254: experiment in cutting 306---its nativity, value and best mode of cultivating 315---its great value, and query as to the best mode of cultivating 386---it was this, not ruta baga that fattened the Columbus ox 357.		---Of different modes of yoking oxen	301
---how to pack, receipt of a composition to preserve, 139, 313.		---Seed for planting, steeped in spirits turpentine resists the fly grub 57.		---A machine for breaking cob and corn	325
C.		---Cobbs; burnt, yield pot ashes 301---one twentieth of the weight nutritive 335.		---The growing of thorns	338
CABBAGES: sorts best to cultivate, and how	316	---Mill, for breaking up cob and corn 290---editorial enquiry respecting 281---advertisement of Geo. Loucks 325.		---A rafter level used in horizontal ploughing	358
CANALS contemplated between New-York and Philadelphia 223; N. York western and northern 239.		COTTON---history of the disease called the rot in 238		---Montagne, a shepherd's dog	381
CANCER plaster, how prepared,	414	---a constitutional disease of the plant---experiments to prevent 355---exports of 281, 285---statement of the quantity imported into Liverpool, London and Glasgow, for a year 13.		CYMBELINE, excellent food for hogs	367
CANINE madness: symptoms of, and how to act if bitten by a mad dog, 103.		---Seed, imported from South America	328	CYPRIUM Bulbosom---when discovered: escaped the notice of Linnaeus: refund by Mr. Crustrien, 108.	
CARRIAGE---new invented,	207	COULTER, Thomas', method of cultivating peach trees, 406.		D.	
---Wheels should stand perpendicularly, 247---Mr. Furguson's reasoning on, 409.		COUNTRY to the city: on the injurious consequences of orchard robbing 72.		DAIRY, construction of and how to manage 137, 145; a profitable one, 196.	
CATTLE---horned, prefer human urine, which is medicinal, to salt, 57; should not be permitted to go at large, 57; if penned, not to be crowded, 90; too little attended to, 98; experiment with corn cobs as food for, 324; method of fattening, 197; caution against preparing their food in plaster mills, 301; the murrain, a complaint of, 51, 60, 61, 87, 99.		COWS, should be milked near the dairy 137; slops of beef and pork injurious to, 69; Wm. Cramp's mode of treating and feeding: his four year's accounts of one, and extraordinary produce, 145: mode of treatment suggested, 319: the produce of several 196: should not be fed on turnips, ruta baga, cabbages or tops oftener than once in twenty-four hours, 391.		DANGERFIELD, Wm. A. Esq's. address to the agricultural society of Prince Georges's 121.	
CARROTS and mangle wortzel, better for cows than ruta baga, 358; extraordinary large, 404.		CRAIGE, Alexander's experiments on earth burning,	413.	DAVIE, Gen. Wm. W's. address to the agricultural society of South Carolina, 218, 225.	
CHARACTER, national, elevated or depressed by the measures of different states; improvements in New York, public spirit of Virginia, agricultural resources of N. York and England compared, 30.		CREAM: on the accumulation of 302, 319: lactometer, an instrument for ascertaining the quantity milk will produce 23.		DAVIS, Eli S. on the importance of chymistry as connected with agriculture 265.	
CHEESE, American; flavor injured by annetto, Parmesan; how made, 358, 364, 410, 411.		CROPS---letters describing the condition of 204, 206.		DEATHS, of Doctor Henry Skinner 144; Leven H. Campbell, 176.	
CHICKORY (chicorium intubus) a good substitute for coffee, 412.		CURATORS, of the South Carolina Agricultural Society, report on live fences and grasses 226---experiments with Guinea grass: correspondence 355.		DELAPLANE, Joshua, on the best method of re-cultivating exhausted lands, 201.	
CHIRURGICAL Society of Baltimore; notice of, 200.		CULTIVATOR: an agricultural instrument: editorial remarks on 194.		DECLARATION OF INDEPENDENCE, notice of Mr. Binn's copy 290.	
CHYMISTRY; new discovery in, 244; its importance as connected with agriculture, 265.		CUTTING Boxes, or benches; essay on the advantage of using 241.		DISEASES of live stock, (see veterinary art.)	
---Agricultural; introductory observations, 183; on the nature and composition of earths, 312; knowledge of, essential to farmers, 335; the economy of nature in her combinations, 366.		CUTS---of the Columbus ox	3	DITCHING and draining; the present practice inconvenient and occupies unnecessary space; under-draining recommended 97, 308.	
CIDER; Calvin Jones' receipt for making and preserving, 155: another method, 367: enquiries as to the best method of preparing for bottling, 231: answers to the enquiries, 253: wine made from, 367.		---The Bakewell sheep	10	DOGS, should be discreetly trained 105; account of Montagne, and a general description of the shepherd, 381.	
CIRCULAR Saw; invention claimed by Adam Stewart 23; his right questioned; grounded on a French work accurately describing the same, as by Mons Tourode 31.		---Apparatus for potato boiling	20	DOMESTIC Industry and Economy; Howard on the ruinous custom of entrusting servants to market, 54; Cogitativus' notions of, as practiced, or prices of domestic wool, contrasted with the prices of foreign cloth, 206, 214; foreigners laboring for us, our poor starving for want of employment, 216; Spanish practice reverted to as an example to Americans, 230; view of our commerce with England 246; war and peace, a change of circumstances ought to operate a change of conduct 250; the father and son, or the result of industry contrasted with the consequences of empty speculation 264; regulation of trade necessary 272; on revenue, and mode of raising 280; declarations of the Cincinnati, (Ohio) society for the promotion of 216.	
CLAIRBORNE, (Alabama Ter.) the town of described, 23.		---Cobbett's single ox yoke	35	DRAINING, advantages of to grass land; aquatic plants disappear; fine grasses rise in abundance; the rot so destructive to sheep avoided; on wood lands the trees thrive better for; should be resorted to for the improvement of wastes; climate is rendered healthy thereby 44; description of a drain 45; causes of wetness to be ascertained, description of soils, drains commonly used 49; instruments employed 50; modes of, applicable to different soils, &c. 51: subterraneous mode the best 308, 97.	
CLINTON, Hon. De Witt; on American agriculture and botany, 107.		---Sinclair's drain	50, 45	---and embankment, advantages of, (see Swartout's meadows.)	
CLOVER---fails after frequent repetitions, 73; the best grass for cultivators of grain, 150---less injured by hogs than by any other stock, 367.		---A Stercorary	58	DRAWINGS of plants, how to be made 142.	
---Seed: machine for gathering: editorial doubts of its utility, 254.		---The velocipede	69	DRILL Husbandry, preferable to broad cast 293.	
COBBETT, Wm. on the culture, mode of preserving and uses of the ruta baga, 1, 9, 17, 25, 33, 41: his opinion of its excellence as cattle food, sanctioned by the practice of Mr. Barney, in rearing Columbus and the Delaware Ox, 1, 3.		---A double harrow	112	DUELLING, Franklin on 159.	
---On earth burning,	135			DUNG; opinions as to the state when best to apply 66; of cattle penned, should be composted 90 of poultry, very fertilizing 106.	

DYING declaration of a young man executed for purchasing money from a letter 104.

E.

EARTH Burning, experiment making 53; particularly useful where broom sedge has taken possession of fields: experiments by several persons 135; where best to practice 140; quick lime as a substitute for fire 141; experiments by the Rev. Wm. Wilkieson 151; clay ashes a most valuable discovery in agriculture, experiments 413.

EARTHQUAKE, destructive at Palermo 56.

EDITOR, disclaims for his paper: all interference in politics 55.

—'s intimations to the farmers of Prince George's county 4; explanation of the objects of the American Farmer, &c. 6; notice of the address of the committee of the agricultural society of Maryland 31; miscellaneous remarks on the hog 46; query, as to the probable efficacy of sassafras in the destruction of the tobacco fly 47; remarks on the selection of seed, &c. 82; notice to correspondents 88; to subscribers 95, 343; desultory readings 343.

EDITORIAL, enquiries as to the grub worm 58; correction of errors 78; notices 112; admonitions, queries, and speculations on the subject of live stock 127, 128; notice of the addresses, &c. of the president and vice president of the agricultural society of Prince George's county 128; to subscribers, of Lawler and Chili wheat 144; of the New York state act for the encouragement of agriculture 163; to subscribers, request for certain seed, &c. 167-8; acknowledgment for the receipt of some guinea grass 174; notice of a contemplated publication of revolutionary speeches and documents 215; of clean wheat made by Tench Tilghman, Esq. 216; of the Baltimore manufactures, requests, and notice of Massachusetts agricultural society 224; notice of communications 240; note on the subject of the weather, mean temperature below which plants will not thrive 271; enquiries, &c. 281; notices and acknowledgement of the receipt of certain pamphlets, and communications 320; remarks on the cultivator 194; to subscribers, &c. 199; hint 247; notice respecting Chili wheat 248; benefit of his correspondence 255; notice of Col. Taylor's paper on artificial grasses 265; apology 306; notice of communications 336, 392; queries 375; advertisements 376, 415; notice of a treatise on agriculture, Quincy's address, merino sheep 383; of Mr. Barney's live stock 408; of early corn, Talavera wheat and Guinea grass, high price of potatoes 184.

ERADICATOR, an agricultural instrument described 335.

EXPERIMENTS, commendable 105; illy reported, one cause of the slow progress of agriculture, farm report recommended 251; on early cutting of indian corn 131; one made on the Potowmac 253; to ascertain if Lawler wheat resists the fly, and how to guard against smut 301; in planting corn 303—in cutting corn 306—in the cultivation of ruta bagea 351; in planting trees 335.

EXPORTS, from New Orleans 285—from the United States 344.

F.

FAILURES, from good practice not to cause discouragement 82.

FALLOW Crop; enquiries as to the best other than oats 306—answered, barley recommended 318—additional remarks on its cultivation 397.

FAN, improved patent 29.

FARM, extraordinary product of the Salem Alms House 10—Mr. Barney's 11—pattern recommended to the farmers in the lower part of the state 68—T. Tilghman's description of his and mode of managing 90—produce of an English 291—form of a farm report 251.

—Yard, should be furnished with a pump 57.

—Dwelling house, &c. situations and observations on 105.

—Report, form of one suggested, 251.

FARMERS, the best 122—some knowledge of chymistry, indispensable to 210, 335—objects for the attention and enquiry of 262—of the eastern shore begin to exert themselves, promise amendment 368; advice to, from Young's Farmer's Calendar 370—instruction to 377—hints to 391.

FARMING, settled practice better than experimental 105—Maryland and Pennsylvania compared 125—general notice of defects in and how to remedy 377—order and system indispensable 391.

FENCES, live, recommended, the Virginia thorn valuable for, also the New Castle cockspur 100, 117, 172, 205, 221, 337, 350, 403, 413.

—Stone, mode of constructing, comparative value with dead 359, 396—different kinds compared 413.

FENWICK, Arthur's, address to the agricultural society of St. Mary's county, Maryland 185—essay on the advantages to be derived from cutting boxes or benches 241.

FEMALE Beauty and ornaments 266.

FIRE, beneficial effects of to soil 97.

FISII, how to convey 176.

FIVE Minute's reflection on sheep, 332, 341—sixth minute's do. 392.

FLAX, history of, how to dress, &c. 343.

FL+ES, how to destroy 103.

FLOWERS, effects of hot water on 16.

FOREIGN ANIMALS, proper enquiries respecting, skins how to preserve, &c. 189; table plan for describing 191.

FRANKLIN Doct. Benj; his essay on the waste of life 59—plan of studying languages 70; his entrance into public life, first turn of his thoughts on public affairs 71; account of the Rev. Mr. Whitfield 77—on duelling 159—advice to all young tradesmen 200—his way to wealth 248, 256.

FRIEND, a, in reply to enquiries of a subscriber 259—notice of his reply 312—apologetical notice of the notice 337.

FRUIT, simple mode of qualifying its flavor 12—proper for an orchard 323.

—TREES, method of forcing every one to blossom and bear 12—advantage of propagating from the roots of old ungrafted 45—pernicious to prune in March and April 67—on the practice of growing from the seed 206—to preserve from fly 350—how to range in an orchard 333—management of from every stage of growth 387—meeting to establish a nursery for, in Baltimore 400—address of the committee 405—peach how to cultivate 406.

G.

GARDNER.—DIRECTIONS TO BE OBSERVED FOR EACH MONTH IN THE YEAR.

FOR MAY, Sowing melons and cucumbers in the open ground—squashes, melons, pumpkins and gourds—sweet potatoes, indian corn, early cauliflowers, planting do. sowing seed of do. cabbages, borecole 28—transplanting lettuces, sowing lettuce seed, Brussels sprouts and Jerusalem kale, broccoli, management of beans in blossom, sowing peas, sowing small sallading, kidney beans, Carolina and Lima beans, radishes, planting radishes for seed, spinach, cleaning and thinning carrots and parsnips, planting out celery, asparagus, sowing celery seed, beets 36—ruta bagea, onions, turnips, Hamburg parsley, scorzonera and salsafy, capsicums or red peppers, tomatoes, monardica or balsam apple, egg plants, endive 37—supporting plants for seeds, okra, cardoons, ricinus, palma christa or castor bean, destroying weeds, watering, wall and espalier trees, protect cherries from birds, thinning fruit, cleaning fruit trees, borders, &c. general observations, propagating evergreens by layers, spading and sifting earth over seedlings, seedlings in pots or tubs 55.

FOR JUNE, Melons and cucumbers, squashes, pumpkins, sweet potatoes, cauliflowers, cabbages and savoy, Brussels sprouts, Jerusalem kale, turnip, cabbage, and broccoli 67—celery, peas, asparagus, transplanting leeks, lettuces, small sallading,

kidney beans, Carolina and Lima beans, radishes, carrots, parsnips and onions, beets, endive, okra, tomatoes, egg plant, capsicums, cardoons, plant hot beds, gathering herbs, destroying weeds 68—general observations, propagating evergreens or shrubs by layers, on innoculating or budding hyacinths, tulips, and early flowering bulbs in general, ranunculus and anemones, hardy autumnal flowering bulbs, Guernsey and Belladonna, amarylles, cyclamen, carnations and pinks, propagating carnations, &c. by laying and piping 76—planting carnations and pink seedlings, propagating double sweet williams, transplanting annuals, thinning and supporting flowering plants, transplanting seedling perennials and biennials, stock gilliflowers and wall flowers, remarks and observations, propagating the plants, transplant seed exotics, budding, cape and other green house bulbs 77.

FOR JULY, Remark, peas, potatoes, cauliflowers, cabbage seed 110—coleworts, planting cabbages, savoy, borecole, &c. small sallading, lettuce, celery, carrots, turnips, transplanting and sowing endive, spinach, radishes, artichokes, cardoons, melons, cucumbers, squashes, pumpkins and gourds, melons and mangoes, cucumbers for pickling, kidney beans, egg plant, red peppers and tomatoes, leeks, garlic, shallots and rcombole, onions, collect seed, herbs, sowing peas, general remarks 111—wall and espalier trees, destroy wasps, clean the borders, general observations, budding and innoculating, bulbous and tuberous roots, carnations and pinks, sensitive plants, gathering and collecting seeds, dionaea muscipula, tutsan leaved dog's bane, auriculas and polyanthus 119—general observations, propagating plants, transplanting seedlings and cuttings 120.

FOR AUGUST, Savoy, brocoli and borecole, radishes, sowing and transplanting lettuces, small sallading, endive, angelica, fennel, cardoons and benedictus, cardoons and finocchio, corn salad, melons and cucumbers, winter cresses 127—water cresses, spinach, turnips, artichokes, asparagus, celery, peas, kidney beans, Carolina and Lima beans, parsnips, herbs, collecting seeds, spinach, dung or compost heaps and weed heaps, general remarks and observations, southern states, fig trees 133—budding or innoculating, newly budded trees, preserve stones of fruit, carnations and pinks, auriculas and polyanthus, transplanting seedlings, biennials and perennials, removing paeonias, flag irises, propagating fibrous rooted perennial plants, seeds of bulbous rooted flowers, plants in pots, general observations, propagating plants, budding oranges, lemons, &c. shifting and giving fresh earth to the plants 134—water plants 135.

FOR SEPTEMBER, Wall and espalier trees, gathering fruit, prepare for planting strawberries, collecting ripe fruit, general observations 179—budding or innoculating, propagating trees and shrubs by cuttings and layers, fruit stones, trimming pines and firs, general remarks, pinks and carnations, chrysanthemums, auriculas, ranunculus, aconitifolius, sow seed of bulbous roots, hardy annuals, transplanted biennial and perennial flower roots, planting bulbous roots, tuberous rooted flowering plants, hydrangia hortensis, double daisies, taking in the plants, succession pines, crowns and suckers, procuring fresh tan, prepare compost 180.

FOR OCTOBER, (*Kitchen Garden.*) Parsnips, lettuces, cabbage plants, cauliflowers, winter spinach, hoeing, &c. cabbages, brocoli, &c. winter dressing of asparagus beds 229—celery and cardoons, aromatic and medicinal herbs, endive, planting large onions to raise seed the succeeding summer, Jerusalem artichokes, carrots, beets, &c. general remarks, southern states 230—winter pears and apples, pruning, planting fruit trees, planting gooseberries, pruning and propagating do. planting raspberries, propagating fruit trees by layers and suckers, dressing strawberry beds.

- preserving stones and kernels of fruit 233—*Nursery*.—General observations, propagating trees and shrubs by layers, do by cuttings, planting acorns, chesnuts, chinquapines, walnuts, hickory nuts, &c. 233—transplanting stocks to bud or graft, on planting hardy deciduous trees and shrubs, pruning, sowing stones of fruit trees 234.
- FOR NOVEMBER, (Kitchen Garden.)** General remarks, celery, endive and cardoons 263; cabbage and cauliflower plants, housed onions, preserving cabbages and brocoli for winter and spring use, preserving potatoes and turnips, do. carrots, parsnips, beets, salsafy, &c. 264—*(Fruit Garden.)* Raspberries—*(Orchard.)* Planting, choice of situation, pruning—*(Nursery.)* General observations, protecting seedlings and young plants, care of newly planted trees, pruning trees and shrubs 270.
- FOR DECEMBER, General remarks, southern states. (Fruit Garden.)** General remarks, pruning apples and pears, prepare for forcing fruit trees, southern states 288.
- FOR JANUARY. (Fruit Garden.)** General observations, pruning apple and pear trees in espaliers, cherries and plumbs, peaches, nectarines and apricots, gooseberry and currant bushes, protecting the roots of newly transplanted trees 321—forcing early strawberries, forcing fruit trees for early fruit, forcing frames, dung heat, bark bed heat, fire heat, vineries, southern states 322—*(Orchard.)* Situation for, the trees of one, and requisite attention to be paid to one 323—*(Nursery.)* General observations, times for planting deciduous trees, early transplanting, late do. times for transplanting evergreens, removal of plants, additional remarks 340—soil and situation, fencing, preparing and laying out the ground, general mode of arranging the plants, planting out the seedlings, planting herbaceous fibrous rooted plants, planting bulbous roots, general culture of the plants of this department, southern states 341.
- FOR FEBRUARY. (Kitchen Garden.)** Observations, situation, soil, water, &c. fences for enclosing the ground, laying out do. culture of do. manure, appropriation of the borders, &c. 371—cucumbers and melons, ridging out early do., of pruning or topping cucumber or melon vines, to impregnate the young fruit of cucumbers or melons, to force asparagus, to secure artichoke plants, planting beans 372—sowing peas, cauliflower plants, sowing cauliflower seed, cabbage plants, do. seed, radish seed, carrot do. parsnip do. spinach do. lettuce do. parsley do. celery, kidney beans, mushrooms, paper frames 373—southern states 374.
- FOR MARCH.**—Observations, sow cucumber and melon seeds, make new hot beds to transplant them, impregnate the fruit of cucumbers and melons, cauliflowers transplant and protect, planting and sowing cabbages, broccoli, borecole or curled kale, spinach, parsnips, carrot seed, sowing peas, earthing and sticking do. planting large Windsor beans, &c. sowing parsley, large rooted or Hamburg parsley, sowing and transplanting lettuces 399—radishes, celery, beet seed, pot and medicinal herbs, capsciums, tomatos and egg plants, planting out cabbages beets and turnips for seed, horse radish, southern states 400.
- GARDENING, English, observations on, and estimates 173.**
- GARLICK, mode of exterminating 320; winter ploughing for do. 319.**
- GARNETT, James M. Esq.'s address before the Fredericksburg Agricultural Society; extravagance of modern times contrasted with ancient prudence and economy 36, 369.**
- GENERAL cautions in country cookery 190, 212, 274.**
- GEOLOGICAL Society, established in Connecticut 79.**
- GILMAN, Ephraim, on the comparative utility of oxen and horses 313.**
- GOATS, Cashmere 158; imported into France 367.**
- GOOSE Grease, a good substitute for lamp oil 416.**
- GRAIN, winter; harrow in the spring 73; not to be sowed the first year of liming fields 82; shallow sowing for small 126.**
- GRAPE Vine; interesting remarks to foreigners accustomed to its cultivation 214; its cultivation recommended in suitable latitudes, to take the place of cotton 270; advantages of the United States for, compared with those of France and Spain, &c. 271; best for the U. States, how cultivated, practices of different countries, Chaptal's writings on the subject recommended 280; letter on the French mode of cultivating, soils and situations suitable for 245; the subject continued 294; letter from Cadiz, describing the Spanish mode of cultivating 305; interesting facts relative to 311; the parts of our country adapted to its culture 317; information on, how to be obtained; grapes of France 318; recapitulation 323; experiments 354; requires particular management; T. Matlock's mode of propagating; a better suggested 364.**
- GRASS, the best for cows 137**
- Tippie, its qualities 150; Thomas Hillen's opinion of 253.
- Guinea, described by Dr. S. Brown, of Natchez; accidentally brought to Jamaica; very productive 163; doubtful if it will ripen here 173; Bryan Edward's description of 191; its culture and properties 205; experiments with 353.
- Fiorine, its productions, how and where to cultivate 267, 275, 283; the fowl meadow, a species of 390.
- Timothy or herd's grass, indigenous to New England 390.
- Cockspur, or orchard, very productive 404; its value, and when to sow 74, 289.
- For making imitation Leghorns, described 280.
- GRASSES, artificial, Col. J. Taylor, to the Virginia Agricultural Society, on the cultivation of 257; James H. McCulloh on the cultivation of; clover ranks first, lucerne valuable; soil suitable, &c. 94; notice of different kinds of 94; notice of Lucerne, Guinea, &c. 227, 380; sanfoin very valuable 189; (see notes to Agriculture, American, by De Witt Clinton 107.)**
- GREAT men owe their eminence to accidental circumstances 191.**
- GREEN, General, resolutions of the Savannah City Council, relative to his remains 152.**
- GRIFFIN, Thos. Esq. on the value of kelp or sea weed as a manure, 84; letter to the editor on the same subject 85.**
- GUNPOWDER, how to augment the force of 334; recommended as useful in the summer campaign 144.**
- GYP SUM, (see Plaster, of Paris.)**
- II.
- HARROW, the, described, its use, 181; a new one described 112.**
- HARROWING, importance of to small grain 15; practised and recommended by Pennsylvania farmers 16; its advantages confirmed 23; preferred to ploughing for cleaning and dressing 65.**
- HASLEM, John, veterinary surgeon, on the disease of horses and cattle, called sore tongue, 326—7.**
- HEBB, William's, experiment in planting corn 303.**
- HEDGING, remarks on 66; Virginia thorn and New Castle cockspur excellent for 100; subject continued 117, 172, 205, 221, 337, 350, 403, 413.**
- HEMLOCK, American, or *scuta maculata*, described 287.**
- HESSIAN Fly, is attracted by shed oats; good tilage and late sowing to guard against it 58, 383; not known in Hesse, name given during the revolution, when to every thing obnoxious, was attached this epithet 89; notice and Say's description of, &c. 89; J. H. Cocke, Esq. on 296; first known and its progress 382.**
- HILLEN, Thomas, on the best method of making cider; opinion of ripple grass 253.**
- HINTS to American tourists in foreign countries 141; to dairy farmers 145.**
- HOGS; a remarkable large one, belonging to Amos Wood, of Boston 21; improvements in rearing 23; four remarkable ones raised by Mr. Bingham, of Cambridgeport, Mass. 31; rapid growth of one in Massachusetts 38; editorial remarks on; meat of preferred by the wrestlers at the olympic games 46; ten large ones slaughtered in Boston; manner of keeping, &c. 48; pork liquor injurious to 69; keep no more than you can well feed 97; one with a wooden leg 112; should be regularly fed up to the hour of killing; moon's influence 328; ruta бага fattens just half as fast as corn 313; a short period of corn feeding sufficient to harden pork; as commonly managed the most costly flesh we consume—how to rear 366—pumpkins, ruta бага and cymbkins food for 367—two remarkable ones—table of ten fatted on corn 376—may be said to occupy an intermediate situation between the granivorous and herbivorous tribes of animals 47.**
- HOLMES, Hugh, on stone fences—comparative cost of stone and wood, mode of erecting 396—on elcheory as a substitute for coffee—on pot liquor as a preventive to the pip in fowls 412.**
- HONEY, method of procuring without destroying the bees 92.**
- HORIZONTAL ploughing, how performed, &c. 358.**
- HORSES, how to arrest in the act of running off 56—peas and beans good provender for 89—expence of keeping 291—sore tongue in, how to treat 297—chopped food for, vastly the most profitable 242—premiums offered for the best will soon produce the best breeds of 360—diseases of, and how to treat, (see veterinary knowledge.)**
- HORSE Rake, for collecting clover seed 254—John F. Mercer and Thomas Emory's opinions of 279.**
- HYDROPHOBIA, remarks on and how to treat 167—scullcap or *scutellaria latiflora* for the cure of—the true distinguished from the false—how administered 234—cases of cures 235—6 and 7.**
- I.
- IMPROVEMENTS; in saddles 56—in mail bags 55—in clocks, to operate by magnetism 78—for propelling boats 159—new invented carriage 207—in tanning 232—Stiles' in the rotary steam engine 242—recommended in carriage wheels 247.**
- Internal, loans for, by the Legislature of Virginia 31—Hugh P. Taylor on the subject of 211—Isaac Briggs, do. 222—Catawba River, N. C. 157—Schuykill navigation 232—Virgil Maxey's address to the Agricultural Society of Maryland on 329—Western Canal 248.
- European, 72.
- INK, how to make an excellent 314.**
- INDIGO, successfully cultivated in New York 110.**
- INDUSTRY and sobriety, habits of to be inculcated 107.**
- INSECT, tobacco infested by a novel 79.**
- IRBY, Edmund, on the mode of applying plaster 207.**
- IRRIGATION, or watering, extensively practised in Chili 81—the Chilean method of, illustrated by a diagram 137—the work of Maypu 92—much practised in the South of France 97—miracles of 139—where fully practised, the value of land is doubled—references to districts in Europe 292.**
- J.
- JESUS Christ, a description of, by a Roman governor 289.**
- JEFFERSON, Hon. Thomas, on the method of making Parmesan cheese 410.**
- JOHNSON, Hon. R. M. on the transportation of the mails 159.**

JONES, Calvin, Esq.'s method of making and preserving cider 155.

K.

KIDDINGTON, K. of the Bath (English) Society, on the comparative merits of the ox and horse for purposes of husbandry 309—statement of labor performed by the aid of the former 310.

KIRK, Caleb; description of the wheat of May 91—on hedging 100, 117, 172, 205, 221, 337, 350, 403, 413—remarks on grasses 150—on barley, as a fallow crop, Delaware mode of cultivating 318, 397—the same subject continued 415.

KITTERY, (Me.) destined to become a naval despot 60.

KNOWLEDGE, a portion of mineralogical and chymical necessary, to enable to distinguish the quality and properties of earths 81.

KNIGHT, Andrew T. on the advantages to be derived from propagating from the roots of old ungrafted fruit trees 45.

L.

LABOUR, saved by the cultivation of artificial grasses—they alone can form highland meadows 260—saved also by good and close cultivation 177.

LACTOMETER, an instrument to determine the quantity of cream that milk will produce, described 23.

LAND, trench ploughed, experiment and advantages 18—causes of wetness and advantages from draining, tends to the improvement of wastes and meliorates climate, particularly beneficial to woods, plantations and grass lands 44.

—A ready means of improvement would prevent emigration 121; cultivation of artificial grasses recommended for 257: value of, and rent highest where they are most cultivated 257.

—Exhausted, the best mode of improving 201; a separation of the constituents of, a mark of sterility; remarks on the measurement of 412.

LANDS, of Maryland, originally fertile, but injured by the bad farming of our ancestors 132; arable, should be in one lot 378: rye the best crop to improve 201.

—Holders of, ought conditionally to rent for a term of years 297.

LAKES, advantages to be derived from draining 51.

LANCASTER, Joseph, on rye straw for Leghorn bonnets 313.

LAW, Thos President of Prince George's Agricultural Society, addresses before 115, 291: his opinion that tin or pewter pans for milk should have the preference, shown to be a mistaken one 302, 319.

LAW Intelligence, Streitcoff vs. Streit, contention about a calf 255.

LEGHORN Hats, manufactured in Connecticut: the grass described 280: Joseph Lancaster's opinion of rye straw for the purpose 313.

LEGISLATIVE encouragement to agriculture and domestic economy recommended, the example of New York 208.

LEE, J. S. Esq. on the culture of Indian corn 123.

LIBRARIES, select, useful on board of men of war 141.

LIME, used with success for the destruction of the tobacco fly 47; when and how profitably employed 65: used as or with manure, should be slacked 82: has no effect on land in less than two years: lime and plaster more speedily operative than lime stone, from their ready solubility 374: continued 401: how to apply to land 384: mixed with powder increases its force 334.—Stone, queries respecting 335: replied to 375: fertilizing to land from decomposition 401.

LITHOGRAPHY, an ingenious discovery 22.

LIQUOR, Austrian method of extracting an excellent one from potatoes 46.

LLOYD, Edward, Esq.'s remarks on lawler wheat 141: experiments with wheat of Chili 157.

LIVE Stock, confine to the yard 94: rather understock with the best breeds 97, 179: importance of, to a farmer 225.

M.

MACHINES, Mayfield's threshing; Stewart's brick 56: Herring's self-feeding wheat fan 103; post boring 239: for breaking up cobs and corn 290, 297: advertisement of Geo. Louck 325; for gathering clover seed 254; Tisdale's grain cleaning 231: a straw cutter found among the manure at Belmont 400: for grinding potatoes to procure the fecula 408: no threshing used, uniting cheapness with utility 181.

MADISON, Hon. James' address before the Agricultural Society of Virginia 161, 169, 177.

MAIL Bags, an improvement in the manufacture of 55.

MAN-KILLING, new discovery in the art of 6.

MANGLE Wurtzel, will yield a crop equal to ruta bage: preferred as cattle food 357, 403: the farmer's interest to cultivate both 403.

MANUFACTURES, the future prosperity of the country dependent on, the support of a nation consists in its own productions 22; war in Europe gave spur to agriculture, peace changes the face of things 29: the opinion that industry left to itself will pursue the most profitable employment, combatted 52: notice of the Philadelphia Society's address for promoting, the prevailing opinion that manufacturing establishments are in their effects injurious to morals, and dangerous to governments doubted as it regards foreign countries, denied as it relates to our own 59: scarcity of hands objected to our successfully prosecuting, not admitted: many foreigners successfully engaged in the useful arts 86: recommended to be encouraged by a meeting in New Castle, Del., also by a meeting in Wilmington, call for an enquiry into the rise, progress and decline of 224: encouragement to, recommended by the Cincinnati (Ohio) Society for promoting agriculture 216: constitution of the Pennsylvania Society for encouraging 196.

—Domestic, statement of the Pittsburg for four years 352: Boston glass 38: Steubenville do. 273: American Leghorns 280: flourish best with a flourishing commerce 390.

MANURE, should be gathered into a stercorary, leakages should be carefully guarded against 57: for composts and how to increase quantity 58: stable and yard to be ploughed in 66: in what state best to apply: opinions variant from unsettled data 66: kelp or sea weed valuable as 84: the foundation of good husbandry 94: warping practised in Europe, to procure 97: earth burning for 135: the management and application of 186, 226: how to save and increase 202: quantity used on an English farm 290: English 247: bones used as 375: clay ashes the most valuable discovery for, ever made in agriculture 413: the offal of plants should be preserved for: Indian corn and the cotton plant yield much 178.

MARTIN, A. B.'s experiments on Indian corn 254.

MATRIMONY, in Rhode Island, a mere civil institution 224.

MARYLANDER, on the best mode of treating and feeding sheep 332, 341.

MAXEY'S Virgil, address before the Agricultural Society of Maryland 329: his report on public schools 388.

M'CULLOCH, James, Esq. on the cultivation of artificial grasses 94: his answer to a question by a subscriber 289.

MENDELL, Thomas, to the President of the Agricultural Society of New Castle, Delaware, on the advantages of fall ploughing 324; his theory questioned with respect to certain soils 349.

MEADOWS, natural and artificial 379.

METEOROLOGICAL Table, comparative for 1817, 18 and 19 416.

MERRIWETHER'S, Wm. description of the growth of wheat 126.

MEMORIALS, of the delegates of the Virginia Societies on the impolicy of encouraging manufactures by protecting duties 345: of the Freder-

icksburg (Virg.) Society on the same subject, resolutions, &c. 332.

MERCER, John F. on the pumpkins or Persian squash raised by him: approves of the iron rake for gathering clover seed: describes a hand rake for the same purpose 279.

MILDEW, the cause of unknown 109.

MILK, the last drawn from the cow the best 137: should not be agitated: of each cow should be kept in separate creaming pans 18: pewter or tin pans pernicious for 303.

MILL, notice of one for breaking up corn and cobb 290, 297: editorial enquiry for 281.

MILLET, tends to harden the earth 404.

MINOR, P. on the value of corn cobs as food for cattle 325: on subterraneous draining 308: on stone fences 359: his estimate of the comparative cost of stone and wood confirmed, by Hugh Holmes, Esq. 396.

MISCELLANY, Question: New York and Liverpool packets: legislative interference with the municipal affairs of Baltimore; charitable disposal of the profits of the Bakewell sheep: extraordinary reward for the detection of counterfeiters 7: installing of the congress of Venezuela 14: articles of general intelligence 15, 40, 43, 79, 96, 160: thunder storm in New York 31: labour saving machinery of Great Britain: account of a man turned to stone: subterraneous discoveries in one of the Orkney Isles 36; moral reflections 47: notice of admiral Tate 38: insurrection: call of congress; ruta bage 63; wonderful expedition 80; hard times; legislature of Rhode Island; whale fishery 96; separation of Maine from Massachusetts 103; the drought; ruta bage; tobacco; working oxen 127; Albany beef; extraordinary cow 128; to southern millers 144; Gen. Green; Chinese method of taking wild fowl; on swimming 152; cession of the Floridas; Mr. Guille's ascension 158; escape from penitentiary; suspension of naval officers; Liverpool markets 175; Gen. Boyd; circulation of the London Observer; celebration of American independence at Fayal 176; editorial request for copies of agricultural societies; index; Arkansas territory 192; editors of Intelligencer solicit information respecting state constitutions 288; extraordinary season 328; high price of books; heavy wheat; revolutions of commerce; noble undertaking 200; extracts of letters respecting the season 232; map of Maryland; emigration 266; a bridge across south river in Anne Arundel county, Maryland 392; "the news," death of George 3d, &c. 407.

M'KIM, Isaac, imports seed 416.

MULBERRIES, will not take by grafting or inoculation 412.

MULES, a highly valuable animal 98.

MURRAIN, introductory remarks on the subject of diseases in cattle 51; the meaning of the term equivocal 60; the disease that prevailed in Pennsylvania, nothing more than a derangement of the digestive and biliary functions; reasoning to show that it was not the "old plague among cattle"; the causes of diseases and how generated; diseases of the bowels and bladder in the brute, of the few which resemble those of the human species; method of treating 60; a disorder invading all orders of animals; a low typhoid fever; diseases of animals should be investigated by physicians; recommendation of a medical board to be attached to agricultural societies 99.

MUSE, Dr. Joseph, on Entomology 124; on the modus operandi of plaster paris 335.

N.

NAMES of men in high stations, may give sanction to erroneous practices 360.

NAVAL Officer's letters to lieutenants and midshipmen 21, 37, 61.

NAVY, letters to lieutenants and midshipmen exhorting to discipline; obedience and application

- to studies calculated to qualify them for the stations they are hereafter to sustain 21, 37, 61.
- NANJAYMOY**, on the general use of oxen for agricultural purposes 299, 313.
- NEGRO** population destructive to the interests of the lower counties of the state of Maryland 99.
- NICHOLAS**, Wm. C. on the culture of indian corn 130.
- NEW YORK** Ocean steam ship company 289.
- NURSERY**, for the propagation of fruit trees: a meeting to establish 400: address of the committee appointed 405.
- NUTS**, Chesnut and hickory, on planting and grafting 400.
- O.
- OAT** Straw, injurious to cows 206.
- OATS**, the black and white best to cultivate; excellent to protect grass seeds 316.
- OIL**; pumpkin seed afford an excellent 19: of flax-seed, its medicinal use 343; substitute for lamp 416.
- OLD** Fashions 362.
- ONIONS**, New England method of cultivating 247. —Seed, on raising 306.
- OPIUM**, might be cultivated in this country as well as the poppy 116.
- ORCHARDS**, situations for, soils suitable, and trees proper for 323.
- ORDINATIONS**, of the Rev. John Pierpont, at Boston 24; of the Rev. Jared Sparks, at Baltimore 56.
- OXEN**, Columbus and the Delaware, described 3; very valuable on a farm for deep ploughing 203: proportions of dead and living weight 204: their use in husbandry 298: their value, compared with the horse and mule 299; the best mode of rearing 300: an estimate of the labour performed by 310: their character, and how to treat 313: for agricultural purposes, better than horses 313: objections to their use considered 178.
- OX YOKE** described 314.
- OYSTER** Shells, enquiry as to the cost of, and comparative bulk before and after burning 535: answer to the enquiry and method of forming a kiln 384; lime from compared with that from stone 374: if reduced to powder, preferable to lime from, for farming purposes 384; compost from described, and how to imitate 402.
- P.
- PARKE**r, Thomas' theory of making and hanging gates 182.
- PARSONS**, Gorham's account of the product of a Merino weather 197.
- PASTURES**, old, dry and elevated, best for sheep 98.
- PATENT** and copy rights, agency for 192.
- PEACHES**, to dry 408.
- PEACH** Trees, method of cultivating 406.
- PEA** Blossoms, Mr. Knight's experiments on 83.
- PEAS**, an account of, and how to use to the most profit 308.
- PEASANT** and his wife, a poem 160.
- PERKINS**, Thomas S. address before the Agricultural Society of New London, Conn. the soil naturally superior, how impoverished, and to renovate 385: the value of indian corn and query? the best mode of planting, inexperienced farmers illy qualified to experiment: the advantages to be derived from agricultural societies; references, &c. 387.
- PERUVIAN** Bark, singular effects of 290.
- PICKERING**, Hon. Timothy; his agricultural services noticed 79; his comparative estimate of the value of potatoes, mangle wurtzel and ruta бага as food for stock 357: the subject renewed 402: on Parmesan cheese 358, 364: on herds or timothy, and foul meadow grass 390: his estimate of the nutritive property of the ruta бага, considered erroneous 391.
- PHILOSOPHICAL** Queries 334.
- PIDGEONS**, very mischievous on a farm 106.
- PIGS**, notice of large ones in New York 314.
- PITTSBURG** Manufactures, a statement respecting 352.
- PLANTS**, receipt to preserve from insects 63; should be accommodated to the soil: food for 73: foreign how to select and secure: table plan for describing 142: antipathies of 157: the relations between soils and, considered 171; the peculiar wants of several 402.
- Time of sowing, mode of treatment, &c. for every month in the year, (*see Gardener*.)
- PLAGUE**, ravages of the 16.
- PLASTER** of Paris, the properties of, not entirely known 73: its action little understood 166, 177: its general efficacy questioned 122: the best means of applying 201, 207: the modus operandi of 338: its fertilizing qualities ascribed to its phosphoric property 339; theory of the use of lime and 374, 401: useful for every species of vegetables 44; caution against grinding in a mill used for cattle food 301.
- PLEURISY**, recipe for the cure of 223.
- PLOUGH**, described: English and French compared 181: description of one sent by Dr. Mitchell, of New York, to the emperor of Russia 120: of a New England, by Arator 265.
- Shovel described and use of '94.
- Gear, wooden hames preferable to leather or corn husk 64.
- PLOUGHING**, fall preferable to spring, enables to sow earlier, is destructive to cut and grub worms 57, 124, 284: deep, by far the best mode of 66: what depth, &c. best 284: Thos. Mendell on the advantages of fall 324: his theory questioned as it regards certain soils 349; horizontal, introduced by Col. Randolph: the manner and advantages of, described by Mr. Jefferson 358: advantages of trench, and how to fix the plough 18.
- POETRY**, North Point Line of Heroes 12; an Extract 24: on the Anenion, by Darwin 32: German Theatricals 96: the Butterfly and Snail 104: the Upas 117: Ode to the Poppy 128: Molly O'Shea 143: the Aronaut, by Darwin 153: the Peasant and his Wife: Agriculture 160: Protest against getting Drunk 240: Revenge or Father's Kindness 232: the Canal 256; the Smile of Affection 360: Gypsum, an Agricultural Ode 3:6: Winter Evening's Amusement for Jane and Me 391: the Indian Student, or Force of Nature 408: the Leaf of Tobacco 184:
- POPPY**, Ode to the 128.
- POST OFFICE**, receipts and expenditures of the general, for five years 4, not intended as a source of revenue 159.
- POTATOES**; turnips, wheat, and pumpkins compared with 19; an excellent liquor to be extracted from, method practiced in Austria 46: indigenous to South America 80: kelp or sea weed, an excellent manure for 84: said to grow best in boggy grounds 90: how to keep 127: how to cultivate 154, 303: uses of 155: best mode of boiling 212; how to make bread of, also soup 213; moist and cool grounds best for the culture of: how to select for seed 357; cool climate for Irish, warm for sweet; many species of the solanum or potatoe family poisonous 391; nutrition of, compared with that of wheat 408.
- POT** Liquor given to fowls, a preventive to the pip 412.
- POTTAGES**, Dr. Johnson's method of making 274: Col. Paynter's do. 199.
- POULTRY**, not too abundant, dung hill the best: crossing beneficial 106: how to cure the gapes in young, and to prevent 231, 290: pot liquor a preventive to the pip 412.
- Houses, to preserve from vermin 19: should be kept clean and well aired 290.
- PRINCE** George's County, profits on the staple of, productiveness, &c. 4: letters from, complaining of draught 168.
- PRINTING** Press, Well's patent, described 160.
- PRODUCE**, country, prices of, &c. 8, 16, 32, 48, 56, 64, 80, 88, 95, 103, 112, 128, 136, 143, 152, 160, 168, 176, 192, 199, 214, 216, 274, 281.
- PRODUCE**, remarkable, of a pumpkin seed: of a vine: large corn stalk and peach 223: of a root of wheat 240.
- Of the sea, forest, agriculture, manufactures, &c. exports of 344: Liverpool prices of 197.
- PUMPKINS**, potatoes, turnips, and wheat compared 19: useful because medicinal for cattle 123: extraordinary produce of 266: one-twenty-fifth their weight nutritive 335.
- Q.
- QUESTIONS**, by a subscriber, respecting orchard grass, earth burning, and ruta бага 282: answers by a friend and J. M. 289.
- QUINCY**, Hon. Josiah; his description of a stercorary 58, 82: address before the Agricultural Society of Massachusetts 377.
- R.
- RAKE**, hand and horse for collecting clover seed 279.
- RANDOLPH**, Thomas M. on the bott fly of horses 315.
- READING**, on agricultural subjects, recommended 105.
- RECLAIMING** of salt marshes: experiments and inquiries respecting 249; answers to inquiries 277.
- RECEIPTS**: to make thunder powder 16: for preserving poultry houses from vermin 19; to make Naples biscuit 22: the French mode of making brandy peaches 22: persimmon beer, Mr. Jefferson's mode of making 24: to prevent a bitter taste in butter 31, 64: to preserve butter 313; indelible ink 31: currant wine 53: to preserve plants from insects 63: Freach cement 64: for an ulcer 96: to destroy flies: ginger beer 103: for making and preserving cider 155: for cholera morbus: for destroying turnip fly, 168: for a wen 188: for the pleurisy 223: for ruta бага puddings 280: to cure burnt tongue in cattle 288, 297, 236, 237: to cure a cough 243: for spruce beer 344, 360: for gapes in young poultry 231: for the gout 232: for pickling walnuts 314: for spruce wine 314: for ink 314: for American tokay 335: for a tetter worm 360, 400: sumack, an excellent dye 392: to destroy bed bugs 393: for drying peaches 408: cancer plaster 414: vaccination, cure for whooping cough 184.
- RHEUBARB**, a native of Thibet, cultivated in England 334.
- RICHARDSON**, Dr. D. D. on the cultivation of the florine grass 267, 275, 283.
- RICE**, wild, abundant on the great lakes 108.
- Export of, &c. 285.
- RIVERS**; origin of 72.
- ROLLER**; its advantages; too little used 58, 181.
- ROOTS** and herbs; medicinal, manner and time of selecting 271.
- ROT** in cotton: history of the disease 238.
- ROTATION** of crops; the only mode of improving lands 201; three years the best interval between grain crops 122; Pennsylvania practice 132; course recommended for Maryland 133; rye may be introduced at any time 173; the principles on which rotation is founded 293; best adapted to the meridian of New York 294: to exterminate garlic 320: new rotations 344, 365: one to guard against the Hessian fly 383: a good one experimentally proved 401: the disproportionate wants of plants the principles on which it is founded 402.
- RULES** and regulations of the Albemarle Virginia agricultural society 262.
- RUM** drinking; estimate of the cost of to the country 199: expense to an individual 200.
- RURAL** economy; diet in 212: messes according to Doctor Johnson 274; according to Colonel Paynter 199.
- RUTA** Бага; description of the plant, mode of saving and preserving the seed 1; time of sowing 2, 391: quality and preparation of the land, and manner of sowing 9: after culture 10: trans-

- planting 17, 25: time and manner of harvesting 33: quantity of crop 34: use and mode of applying the crop 41: the yellow preferable to the white 62: as a sprout, equal to the cabbage; abundantly productive of; compliment to Cobbett for its introduction 63: queries of a subscriber, might it not take the place of tobacco 312? combined with oat and straw, amply sufficient for the winter food of cattle 123: experiment in its culture 351: description of a remarkable English field of 35.
- RYE**, a sure crop, and will succeed in any stage of rotation 173: the best crop to improve lands, and excellent to fatten hogs 201: mode of cultivating 304.
- S.
- SADDLES**; pleasant improvement in the construction of 56.
- SALT**, and salt water used as manure by the Chinese and at Hindostan 58: saline manure, a preventive to the blight and mildew of wheat 319: no preventive to smut 302.
- Marshes; enquiries respecting the reclaiming of 249—S. Swartwout, Esq. in reply to 277.
- SASSAFRAS**: a decoction of, destructive to vermin 47, 71, 232.
- SCHOOLS**, public; Mr. Maxey's legislative report respecting 388.
- SCULL** Cap, or *scutillaria latiflora*, a cure for hydrophobia 234: cases of cure, &c 235, 6 & 7.
- SEED**; pumpkin affords an excellent oil 19: how to select and secure 142: of wheat, how to select 308: should be rolled in plaster, or steamed before planting: choice from a kind that suits a soil preferable to change of 82: method of ascertaining the quality of 89: if rolled in tar and plaster, use but little of the former 400.
- SEYMOUR**, Abel's experiments with Chili wheat 156.
- SHALIM** and **Hilpa**, an allegory 298, 327.
- SHEEP**: the seventeen Bakewell; extraordinary fatness: the breed, how originally procured: comparative table of weights, wools and ages of different breeds of English 11: dry soils best adapted to 98; seculent food best for winter and spring use; the number to be kept in England, at one time regulated by law 98: better fattened on sainfoin than any other grass 109: simple construction for feeding; its advantages 270; fifteen fine Bakewell for the Baltimore market 328: product in meat, tallow and wool of a Merino wether 197: five minute's reflection on, or how to feed, treat and rear 332, 341: a sixth minute's reflection, or how to treat after shearing 392.
- SHEPHERD'S** Dog, an account of Montagne, and a general description of the animal 381.
- SINCLAIR'S** Code of agriculture, on draining 43; on live stock 202.
- John's experiment with salt 319.
- SKINNER**, Doctor Henry, account of his death 144.
- SLAVES**, Virginia rewards for apprehending runaway 159.
- SMITH** Hon. Robert's, address before the agricultural society of Maryland 132.
- SMUT**, in wheat, a contagious disease, how to guard against 269, 317; quick lime the best preventive 302.
- SNOWDROP**, a pernicious plant, enquiry as to the best mode of eradicating 375.
- SOCIETIES**, friendly and beneficial, should be established in farming neighborhoods, objects 107; agricultural improvement the consequence of such establishments 121.
- SOIL**, preparation of, for wheat 308.
- SOILING** merits experiment 90.
- SORE** Tongue, a disease of horses and cattle; how to cure 297: John Haslem's notice of: symptoms, effects and how to treat 326, 327.
- SPIRIT** of improvement, evinced by the importation of several foreign wheats, by I. M'Kim, Esq. for seed 416.
- STABLES** for horses, observations on, diseases generated by confined air 105.
- STARCHE**; how to make 70.
- STATISTICAL**; present cultivation of cotton, rice, tobacco, sugar and wine; capacity for extending 285.
- STEEPS**; good against the maladies of grain 89.
- STERCORARY** described, 58, 82.
- STILES**, John S. improved rotary steam engine, described 242.
- STOCK**, live, should be kept in the yard 94—a farm should be rather understocked, of the best breeds 97, 179.
- SUBSCRIBER**, replies to enquiries of a 289—notice of replies 312—notice of the notice 337.
- SUMMER COMPLAINT**, tea of black oak bark, also gunpowder recommended as cures for 144.
- SWARTWOUT'S** Meadows, a magnanimous enterprise profitably rewarded 117.
- Thomas, Esq. in reply to certain enquiries (249) on reclaiming 277.
- T.
- TABLES**; comparative, of fleeces, flesh, &c. of English breeds of sheep 11; showing the extent of territory, population how employed, and annual product of England and France 14; of the quantity of nutritive matter afforded by one hundred parts of different vegetables 375; of ten hogs fattened on corn 376; of the state of England and France 407; meteorological summary for three years 416.
- TANNING**, an improvement in 232.
- TAYLOR**, John, Esq.'s machine for breaking up cobs and corn 297.
- TAYLOR**, Col. J. on the cultivation of artificial grasses 259.
- Hugh P. Esq. on the subject of internal improvements contemplated in Virginia 211.
- TEA**, a substitute for 56; of black oak bark, good for the summer complaint 144.
- TEETH**, the best method of obtaining good, and to preserve 313.
- TETTERWORM**, to cure 360, 400.
- TERNEAUX**, Monsieur's, importation of the angola goat into France 367.
- THENARD**, Professor's discovery in chymistry 244.
- THEATRICALS**, German, poetical specimen of 96.
- THISTLE**, Canada, how to extirpate 70; grubbing hoe the best instrument for 360.
- THORN**, Newcastle, best for live fences 66; Virginia do. 100, 117, 172, 205, 221, 337, 350, 403, 413.
- THRESHING** Machine, invented by Thomas Mayfield 56.
- THUNDER STORM**, remarkable one in New York 31.
- TILGHMAN**, F. Esq.'s. description of his farm, manner of managing and annual product 90.
- TILLAGE** should be limited to the supply of manure 291.
- TISDALE'S** grain cleaning machine 231.
- TOBACCO** plants; preserved from the fly by fresh oyster shell lime; or by pounded brimstone and ashes 63: assailed by a novel insect 79; cultivated as an entire crop ruinous, exemplified by the condition of the lower counties of Maryland 98; not now ranked among exhausting crops 124; export of in 1791, 285; should not form a crop in the system of rotation; destructive consequences of its cultivation 264; its history, introduction into Europe and medicinal qualities 393; exhaustion produced by, corrected by the introduction of clover and plaster; method of cultivating; preparation of seed 394; beds, preparation of ground, cutting 395; hanging, stripping, bulking, houses 396; leaf of, a song 184.
- TOPHAM**, the strong man, an account of 144.
- TREASURE** on Agriculture (*See Agriculture*.)
- TREES**, Forest, Mr. Knight's theory of 45—should be husbanded and reared 116; on the planting of 179, 282—locusts, chesnuts and cherry 412; description, history, and medicinal virtues of the walnut 314; a remarkable hickory 400.
- Fruit, (*See Fruit*.)
- TRUMP**, Geo. H. Esq.'s; letter to Doctor Mitchell on the rot, a disease of the cotton plant 238.
- TURNIPS**, on manuring for 344; how to cultivate 304; extraordinary produce of 313; to destroy the fly in 168; compared with wheat potatoes pumpkins 19.
- Swedish and Russian, (*See Ruta Baga*.)
- U.
- UNIVERSITY** of Virginia 223.
- USEFUL ARTS**, New York society for the promotion of; distribution of premiums 4.
- V.
- VALUES** of Chili, described 156.
- VEGETABLES**, properties of foreign, should be ascertained by travellers 142.
- VEGETATION**, theory of 153; no one article tends to promote the growth of, though the appetite of plants for different articles is disproportionate, illustrated by an enumeration of several, and their peculiar wants 402.
- VELOCIPEDE**, described 69: another machine of like construction 112.
- VERMIN**, to preserve poultry houses free from 19.
- VENEZUELA**, installation of the congress of 14.
- VETERINARY**, knowledge should be cultivated by farmers 90: to cure the complaint called the burnt tongue 288; THE FOLLOWING SUBJECTS ARE TREATED ON AT LARGE, FROM A VALUABLE WORK ON THE SUBJECT, viz. on abortion, abscess, absorbents 174; age of cattle and sheep, anbury 187; antimony, antiseptics, antispasmodics, apoplexy, appetite, arsenick 188; aegyptiacum, method of ascertaining age 183; back galled, ball, bandage, bathing, bayberries, belladonna or deadly night shade, bile or gall, bishopping, venomous bites 195; black leg or quarter evil described, and mode of cure 206; the complaint has many names, enumerated 207; inflammation of the bladder 213; blood letting 214; blennorrhœa, or mattering of the yard; blister, of what to prepare 220; bott 221; bowels galled 230; dropsy of the brain 245; braxy or sickness, breaking down, broken knees 246; broken wind, bruises, to make cows take the bull 254; calving, diseases of calves 272; buck eyes, buff, callous, calomel, canker, how to treat 289; casting, cataplasm or poultice, cataract, catarrh 336.
- VICTUILLERS**, (Philadelphia) procession 407.
- VINEGAR** from wood 333.
- VINE**, (*see* grape vine.)
- VIRGINIA**, Smith's history of the settlement of 158.
- W.
- WALNUT** Tree, description, history and medicinal virtues of 314; will not take by graft or inoculation 412.
- WALNUTS**, how to pickle 314.
- WAR** Department, regulations by, respecting invalid pensioners 4.
- WARDEN**, Jeremiah, jun. on the value of plaster to vegetables; recommends millet to take the place of oats in the rotation system; on the value of cock's foot or orchard grass 404.
- WASHINGTON**, the N. Carolina statue of described 23.
- WATER**, how to charge with oxygen, and an account of its properties so charged 244.
- WEALTH**, the way to 248, 256.
- WEN**, a cure for 188.
- WHEAT**, liming of seed found to answer an excellent purpose 23; advantages to be derived from harrowing 15, 16, 23; the abundant crops of in Chili, ascribed to irrigation 81; late sowing recommended to guard against the fly 83; injured by stagnant water 97; there are but two kinds of, with and without beard 108; blight of, owing to a fungus sown in the stem 108; prevented if sown

- with marine salt 319; the most difficult crop to make 122; the culture of: deep sowing a preventive to the fly; manner of growth exhibited 126; accidentally introduced into Mexico 191; to guard against smut in 209, 302, 317; time of sowing, modes 307; on manuring for 331; dispatch in cleaning 192; nutrition of compared with that contained in potatoes, &c. 408; seeds of, imported by J. McKim 416; a comparison of the relative machines for cleaning desirable 408.
- Of May, notice of a translation of a note on 79; translation of the note descriptive of, by Miss Bland 80; long since cultivated in Pennsylvania and Delaware, under the name of spring wheat; arrives at quick maturity 91.
- Chili, experiments with 156, 157; notice of Mr. Lloyd's 173; R. Bowie's experiment with and remarks on 194; product of a small parcel 232.
- Lawler, compared with the Virginia white, resists the fly and frost 141, 302.
- FAN, Herring's, described, &c. 103.
- WHEEL Carriages, Mr. Ferguson's reasoning on, and improvements suggested 409.
- WHITFIELD, Rev. Mr. some account of him, by Dr. Franklin 77.
- WHOOPING Cough, vaccination a remedy for 184.
- WILD Fowl, Chinese method of taking 152.
- WILKIE-ON, Rev. Mr. on earth burning 151.
- WILLIAMS, Gen. Otho H. notice of 215.
- WIFE, the, an interesting tale 129.
- WINE, interesting remarks to emigrants accustomed to its manufacture 214, its value to France as an export 285, (*see Grape Vine.*)
- Currant, how to make 53.
- WINE, Spruce, do. do. 314.
- WINTER Evening's Amusement for Jane and Me 392.
- WINTER Grain, harrow in the spring 73; not to be sowed the first year of liming fields 82.
- WOOL, Spanish mode of marking 10.
- Cotton, statement of the quantity imported into Liverpool, London and Glasgow for a year 13.
- WORCESTER (Mass.) Cattle Show, notice of, and rules to be observed at 228.
- WORK of Maypu, described by Judge Bland 92.
- Y.
- YOUNG, Arthur's account of an experiment in trench ploughing 18.
- YOUNG Farmer, notices for 57, 65, 81, 89, 97, 105; Maryland and Pennsylvania farming compared by a 125.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

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NUM. 1.

AGRICULTURE.

The RUTA BAGA or SWEDISH TURNIP.

THE high commendations bestowed upon the *Ruta Baga*, and the decided preference given to it over other roots and vegetables, as food for live stock, by Mr. BARNEY, of Delaware, (the owner of the mammoth oxen lately slaughtered in this market) will naturally begot an anxiety to know more of its peculiar qualities, and to learn the best mode of cultivating and preserving it.

All those objects will be best accomplished by the perusal of a treatise lately written by the celebrated Mr. COBBETT, whose pen communicates new life and originality to the most exhausted subjects. We have, therefore determined to offer to our readers, all that he has said on this matter, as well in his "first" as in his "second part of a year's residence in the United States;" both of which little volumes will be found, especially his notices of agriculture, highly entertaining and instructive.

The length of his remarks, and the near approach of the season for sowing the seed, induce us to commence the publication of his Treatise on *Ruta Baga* in the present number. It will be continued in each one, successively, until finished.

Mr. BARNEY assures us, that, but for the liberal use of the *Ruta Baga*, in feeding the two remarkable oxen, lately sold by him in this market, a much greater quantity of Indian meal would have been consumed; and, moreover, that without the *Ruta Baga*, which helped to constitute that *variety* necessary to sustain a *constant appetite*, it is even doubtful whether they could have been made to attain to such extraordinary excellence in the weight and quality of the meat. He fully concurs with Mr. Cobbett, in estimating potatoes, and other vegetables, as altogether insignificant, in comparison with the *Ruta Baga*; and observes, that besides their intrinsically *nutritious* quality, they act finely as a medicine, counteracting the astringent effect which would result from a more exclusive use of *dry food*; all which we must confess, appears very natural and worthy of consideration.

FROM COBBETT'S YEAR'S RESIDENCE.

RUTA BAGA.

Culture, mode of preserving, and uses of the *Ruta Baga*, sometimes called the *Russia*, and sometimes the *Swedish Turnip*.

DESCRIPTION OF THE PLANT.

It is my intention, as notified in the public papers, to put into print an account of all the experiments which I have made and shall make, in

Farming and in Gardening upon this Island. I saw several years ago, long before tyranny showed its present horrid front in England formed the design of sending out, to be published in this country, a treatise on the cultivation of the root and green crops, as cattle, sheep and hog food. This design was suggested by the reading of the following passage in Mr. CHANCELLOR LIVINGSTON'S *Essay on Sheep*, which I received in 1812. After having stated the most proper means to be employed in order to keep sheep and lambs during the winter months, he adds:—"Having brought our flocks through the winter, we now come to the most critical season, that is the latter end of March and the month of April. At this time the ground being bare, the sheep will refuse to eat their hay, while the scanty picking of grass, and its purgative quality, will disable them from taking the nourishment that is necessary to keep them up. If they fall away, their wool will be injured, and the growth of their lambs will be stopped, and even many of the old sheep will be carried away by the dysentery. To provide food for this season is very difficult. Turnip and Cabbage will rot, and bran they will not eat after having been fed on it during the winter. Potatoes, however and the *Swedish Turnips*, called *Ruta Baga* may be usefully applied at this time, and so, I think, might *Parsnips* and *Carrots*. But, as few of us are in the habit of cultivating these plants to the extent which is necessary for the support of a large flock, we must seek resources more within our reach." And then the Chancellor proceeds to recommend the leaving of the second growth of clover uncut, in order to produce early shoots from sheltered buds for the sheep to eat until the coming of the natural grass and the general pasture.

I was much surprised at reading this passage; having observed, when I lived in Pennsylvania, how prodigiously the root crops of every kind flourished and succeeded with only common skill and care; and in 1815, having by that time had many crops of *Ruta Baga* exceeding thirty tons, or about one thousand five hundred heaped bushels to the acre, at Botley; I formed the design of sending out to America a treatise on the culture and uses of that root, which, I was perfectly well convinced, could be raised with more ease here than in England: and that it might be easily preserved during the whole year, if necessary, I had proved in many cases.

If Mr. CHANCELLOR LIVINGSTON whose public spirit is manifested fully in his excellent little work, which he modestly calls an *Essay*, could see my Ewes and Lambs and Hogs, and Cattle, at this "critical season" [I write on the 27th of March.] with more *Ruta Baga* at their command than they have mouths to employ on it: if he could see me, who am on a poor and exhausted piece of land, and who found it covered with weeds and brambles in the month of June last;

who found no manure and have bought none: if he could see me overstocked, not with mouths, but with food, owing to a little care in the cultivation of this invaluable Root, he would, I am sure, have a reason to be convinced, that, if any farmer in the United States is in want of food at this pinching season of the year, the fault is neither in the soil nor in the climate.

It is, therefore, of my mode of cultivating this Root in this Island, that I mean at present to treat; to which matter I shall add, in another PART of my work, an account of my experiments as to the MANGEL WURTZEL or SCARCITY ROOT; though as will be seen, I deem that root, except in particular cases, of very inferior importance. The Parsnip, the Carrot, the Cabbage, are all excellent in their kind and in their uses; but, as to these, I have not yet made, upon a scale sufficiently large here, such experiments as would warrant me in speaking with any great degree of confidence. Of these and other matters I propose to treat in a future PART, which I shall probably publish towards the latter end of the present year.

The *Ruta Baga* is a sort of Turnip well known in the state of New York; where under the name of the *Russia* Turnip, it is used for the table from February to July. But as it may be more of a stranger in other parts of the country, it seems necessary to give it enough of description to enable the reader to distinguish it from every other sort of Turnip.

The leaf of every other sort of Turnip is of a yellowish green, while the leaf of the *Ruta Baga* is of a bluish green, like the green peas when of nearly their full size, or like the green of a young and thrifty early Yorkshire cabbage. Hence it is, I suppose, that some persons have called it the *Cabbage Turnip*. But the characteristics the most decidedly distinctive are these: that the outside of the bulb of the *Ruta Baga* is of a greenish hue, mixed, towards the top, with a colour bordering on a red; and that the inside of the bulb, if the sort be true and pure, is of a deep yellow, nearly as deep as that of gold.

MODE OF SAVING AND PRESERVING THE SEED.

This is rather a nice business, and should be by no means executed in a negligent manner. For, on the well attending to this, much of the success depends; and it is quite surprising how great losses are in the end, frequently sustained by the saving in this part of the business, of an hour's labour or attention. I one year lost more than half of what would have been an immense crop, by a mere piece of negligence in my bailiff as to the seed, and I caused a similar loss to a gentleman in Berkshire, who had his seed from the same parcel that mine was taken, and who had sent many miles for it, in order to have the best in the world.

The Ruta Baga is apt to *degenerate*, if the seed be not saved with care. We, in England, select the plants to be saved for seed. We examine well to find out those that run least into neck and green. We reject all such as approach at all towards a *whitish* colour, or which are even of a *greenish* colour, towards the neck, where there ought to be a little *reddish* cast.

Having selected the plants with great care, we take them up out of the place where they have grown, and plant them in a plot distant from every thing of the Turnip or Cabbage kind which is to bear seed. In this Island I am now, at this time, planting mine for seed [27th March,] taking all our English precautions. It is probable, that they would do very well, if taken out of a *heap* to be transplanted, if well selected; but lest this should not do well, I have kept my selected plants all the winter in the ground in my garden well covered with corn stalks and leaves from the trees; and, indeed, this is so very little a matter to do, that it would be monstrous to suppose that any farmer would neglect it on account of the labour or trouble; especially when we consider, that the seed of two or three Turnips is more than sufficient to sow an acre of land. I on one occasion, planted twenty turnips for seed, and the produce, besides what the little birds took as their share for having kept down the caterpillars, was twenty two and a half pounds of clean seed.

The sun is so ardent, and the weather so fair here, compared with the drippy and chilly climate of England, while the birds here never touch this sort of seed, that a small plot of ground would, if well managed, produce a great quantity of seed. Whether it would *degenerate* is a matter that I have not yet ascertained, but which I am about to ascertain this year.

That all these precautions of selecting the plants and transplanting them are necessary, I know by experience. I, on one occasion, had sown all my own seed, and the plants had been carried off by the fly, of which I shall have to speak presently. I sent to a person who had raised some seed, which I afterwards found had come from turnips left promiscuously to go to seed in a part of a field, where they had been sown. The consequence was, that a good third part of my crop had no *bulbs*, but consisted of a sort of *raffe*, all leaves and stalks growing very high, while even the rest of the crop bore no resemblance, either in point of size or of quality to turnips in the same field, from seed saved in a proper manner, though this latter was sown at a later period.

As to the *preserving* of the seed, it is an invariable rule applicable to all seeds, that seed kept in the pod to the very time of sowing, will vegetate more quickly and more vigorously, than seed which has been sometime threshed out. But turnip seed will do very well, if threshed out as soon as ripe, and kept in a dry place, and not too much exposed to the air. A bag, hung up in a dry room, is the depository that I use. But before being threshed out, the seed should be quite ripe, and if cut off, or pulled up, which latter is the best way, before the pods are quite dead, the whole should be suffered to lie in the sun until the pods are perfectly dead, in order that the seed may imbibe its full nourishment

and come to complete perfection, otherwise the seed will wither, much of it will not grow at all, and that which does grow, will produce plants far inferior to those proceeding from well ripened seed.

TIME OF SOWING.

Our time of sowing in England is from the first to the twentieth of June. This was one of the matters of the most deep interest with me, when I came to Hyde Park. I could not begin before the month of June for I had no ground ready. But then I began with great care, on the 2d June sowing in small plots *once every week*, until the 30th of July. In every case the seed took well, and the plants grew well; but having looked at the growth of the plots first sown, and calculated upon the probable advancement of them, I fixed upon the 6th of June for the sowing of my principal crop.

I was particularly anxious to know whether this country were cursed with the *turnip fly* which is so destructive in England. It is a little insect about the size of a *bed flea*, and jumps away from all approachers exactly like that insect. It abounds at times, in quantities so great as to eat up all the young plants on hundreds and thousands of acres in a single day. It makes its attack when the plants are in the *seed leaf*; and it is so very generally prevalent, that it is always an even chance, at least that every field that is sown will be thus wholly destroyed. There is no remedy but that of ploughing and sowing again, and this is frequently repeated *three times*, and even then there is no crop. Volumes upon volumes have been written on the means of preventing or mitigating this calamity; but nothing effectual has ever been discovered, and at last the only means of ensuring a crop of Ruta Baga in England, is, to raise the plants in small plots, sown at many different times, in the same manner as cabbages are sown, and like cabbages transplant them; of which mode of culture I shall speak by and by. It is very singular, that a field sown one day, wholly escapes, while a field sown the next day, is wholly destroyed. Nay, a part of the same field sown in the morning, will sometimes escape, while the part sown in the afternoon will be destroyed, and sometimes the afternoon sowing is the part that is spared. To find a remedy for this evil has posed all the heads of all the naturalists and chemists of England. As an evil, the smut in wheat; the wire worm; and the grubs above ground and under ground; the caterpillars, green and black; the slug, red, black, and gray, though each a great tormentor, are nothing. Against all these there is some remedy, though expensive and plaguing; or, at any rate, their ravages are comparatively slow, and their causes are known. But the *turnip fly* is the English farmer's evil genius. To discover a remedy for the cause of this plague has been the object of inquiries, experiments and analyses, innumerable. Premium upon premium offered have only produced pretended remedies, which have led to disappointment and mortification; and I have no hesitation to say, that if any man could find out a real remedy, and could communicate the means of a cure, while he kept the nature of the means a secret, he would be a much richer man than he who should discover

the longitude; for about *fifty thousand* farmer's would very cheerfully pay him *ten guineas a year each*.

The reader will easily judge, then, of my anxiety to know, whether this mortal enemy of the farmer existed in Long Island. This was the first question which I put to every one of my neighbours, and I argued good from their not appearing to understand what I meant. However as my little plots of turnips came up successively, I watched them as the farmers do their fields in England. To my infinite satisfaction, I found that my alarms had been groundless.* This circumstance besides others that I have to mention by and by gives to the stock farmer in America so great an advantage over the farmer in England, or in any part of the middle and northern parts of Europe, that it is truly wonderful that the culture of this root has not, long ago, become more general in this country †

The time of sowing, then, may be as circumstances may require from the 25th of June to about the 10th of July, as the result of my experiments will now show. The plants sown during the first fifteen days of June grew well, and attained a great size and weight; but though they did not actually go off to seed, they were very little short of so doing. They rose into long and large necks, and sent out sprouts from the upper part of the bulb; and then the bulb itself, which is the thing sought after, swelled no more. The substance of this bulb became hard and stringy; and the turnips, upon the whole, were smaller and of greatly inferior quality, compared with those which were sown at the proper time.

The turnips sown between the 15th and 26th of June, had all these bad appearances and quality, only in a less degree. But those which were sown on the 26th of June, were perfect in shape, size and quality; and though I have grown them larger in England, it was not done without more manure upon half an acre, than I scratched together to put upon seven acres at Hyde Park; but of this I shall speak more particularly when I come to the quantity of crop.

The sowings which were made after the 26th of June, and before the 10th of July, did very well; and one particular sowing on the 9th of July, on 12 rods, or perches of ground, sixteen and a half feet to the rod, yielded 62 bushels, leaves and roots cut off, which is after the rate of 992 bushels to an acre. But this sowing was on ground extremely well prepared, and sufficiently manured with ashes from burnt earth; a mode of raising manure of which I shall fully treat in a future chapter.

Though this crop was so large, sown on the 9th of July, I would by no means recommend any

* This exemption must have been accidental, for the Turnip Crop, is in this country subject to the same injury that is experienced from the fly or flea in England.—Edit. Amer. Farmer.

† English Farmers feed their Turnips on the ground that grew them; and thus avoid the expense of gathering and housing this crop which must be incurred in this climate, because of our severe frosts and frequent thaws.

Edit. Amer. Farmer.

farmer, who can sow sooner, to defer the business to that time; for I am of opinion, with the old folk in the West of England, that God is almost always on the side of early farmers. Besides, one delay too often produces another delay; and he who puts off to the 9th, may put off to the 19th.

The crops in small plots, which I sowed after the 9th of July to the 30th of that month, grew very well; but they regularly succeeded each other in diminution of size; and which is a great matter, the cold weather overtook them before they were ripe; and ripeness is full as necessary in the case of roots, as in the case of apples or of peaches. (To be continued.)

SELECTED ARTICLES.

Accounts, both from Sweden and Norway, exhibit the unexampled fact, that down to the beginning of the present month, (January) there has been neither frost nor snow in these remote and hitherto inhospitable regions; but that the primroses blossom, and the goosberry trees are green under the 59th degree of latitude.

New York, March 23.—The ship Comet, which took out from this port a *Diamond*, insured at one hundred thousand dollars, has arrived safe at Havre.

tion begins to be superseded by the conviction that we have now the materials for rivalling the best breeders of England, and that if something depends upon blood, much more depends upon food and good management.

Columbus was four years old when he was purchased by Mr. BARNEY, and had been reared through the summer on upland pasture; fed in winter, in an open shed, on clover hay, and was said not to have eaten six bushels of grain up to that time—since which his treatment has been as follows:

First summer.—Pastured with other cattle, and ate nothing but grass.

First winter.—Commenced in December, giving him from four to eight quarts of Indian meal per day, mixed with the same quantity of *Ruta Baga*, sometimes called Russian or Swedish turnip, and small and frequent supplies of upland hay.

Second summer.—Turned out with his other cattle, and experienced the same treatment as the preceding summer, until the milk began to dry in the corn, when he commenced throwing to him from the field, about sixteen ears per day, stalks and all, until the corn became hard enough to grind: this brought him on to the

Second winter.—When he was driven back to his stall, and again kept on Indian meal and *Ruta Baga*; of the former from 12 to 16, of the latter from 3 to 12 quarts per day, with good upland hay, until the 8th day of March, when he arrived in this city.

THE DELAWARE OX

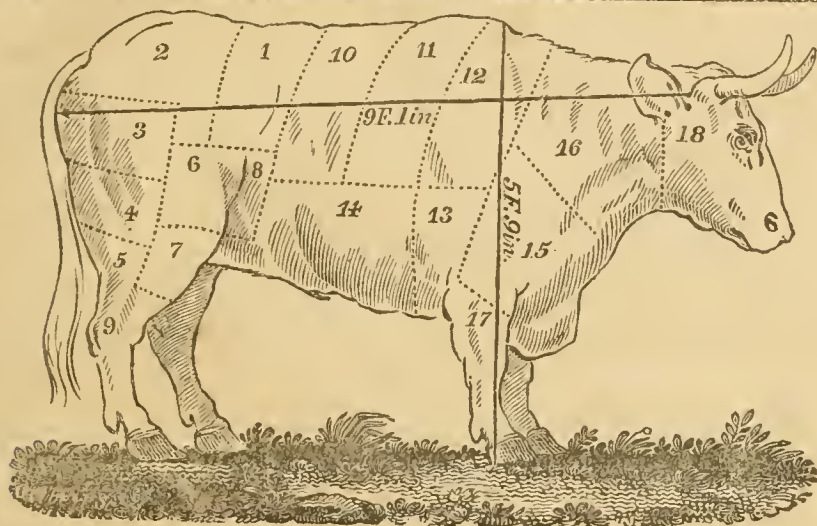
Was acknowledged by all who saw him, to exceed in beauty of countenance, limbs, colour and fine proportions, any animal of that kind ever exhibited in this market.

He was of the Holstein breed; imported by Mr. WALL, of Philadelphia; was of the same age of *Columbus*, reared together for the last two years, and treated in the same manner, except that his allowance was a few quarts less per day.

In reply to our inquiries on that point, Mr. BARNEY informs us that by watching the appetite of these oxen, and carefully regulating their meals according to the weather they were kept always in good health, seldom failed to eat their allowance, and were never surfeited.

He considers, that in the means of fattening cattle, this country possesses, in its Indian corn, an advantage over England, for which she has no adequate substitute. He gives the preference to Indian meal over every other species of food for fattening either sheep or cattle, and gives it in its dry unsifted state. But he is clearly of opinion, that a much less quantity of meal will answer, and that it is eaten with a better appetite when used in conjunction with the *Ruta Baga*; of this root he has the highest opinion, concurring with Mr. COBBETT in the belief, that it is sweeter and far more nutritious than any other root or vegetable used for feeding live stock.

It would be necessary, however, to an understanding of the system and the means by which the feeder of these oxen has attained such eminence and success as a feeder both of cattle and of sheep, that the reader should know something of the extensive advantages derived from the local situation, quality and growth of his land.—



HIND QUARTER.

- 1 Sirloin
- 2 Rump
- 3 Edge bone
- 4 Buttock
- 5 Mouse Buttock
- 6 Veiny Piece
- 7 Thick Flank
- 8 Thin Flank
- 9 Leg
- 10 Fore Rib; five Ribs

FORE QUARTER.

- 11 Middle Rib; four Ribs
- 12 Chuck; three Ribs
- 13 Shoulder, or Leg of Mutton Piece
- 14 Brisket
- 15 Clod
- 16 Neck, or Sticking Piece
- 17 Shin
- 18 Cheek

“COLUMBUS,” AND THE “DELAWARE OX.”

We have the satisfaction to present to our readers a drawing of one, and an authentic account of the general treatment and weight of two of the most remarkable Oxen to be met with in the annals of husbandry.

The drawing represents the form and common attitude of the larger ox. The plain horizontal line describes his length from the root of the horn to the tip of the rump. The plain perpendicular line, his height on the shoulders. The dotted lines point out the manner of cutting up beef, as practised by victuallers, and the figures in their centres, refer to the proper technical name of each piece. We have been thus particular, for the sake of giving a pattern, which it was supposed might be useful as a guide to house-keepers, especially those in the country.

These oxen were fattened by Mr. JOHN BARNEY, at Port Penn, on the Delaware river, an experienced and enterprising grazier from Eng-

land—and, it may be added, one of those foreigners who come to enjoy and to be grateful for the blessings of our country. By the examples of such men, moving in the useful and unostentatious spheres of life, our country is amply repaid for all the advantages which tempt the emigrant to our shores.

The first, and not the least agreeable fact, that occurs, in the history of *Columbus*, the larger ox, is, that he was bought promiscuously, in a drove of common cattle, at West Chester, in Pennsylvania, in 1817, and that, for all that is known to the contrary, the stock from which he sprang, was imported by the first European settlers of America—hence, the conclusion is established, that at least this family of the animal kingdom, does not deteriorate under the continued influence of our soil and climate.

Hitherto it has been thought necessary to import our stock cattle from Europe; but this opin-

These, with some other particulars, relative to the management of his farm, and large stock of sheep and cattle, we must reserve for a subsequent number, when we shall speak more particularly of his sheep, their breed, qualities and treatment.

The two oxen in question, were brought to this market in the steam-boat from French Town, and as the fact, though apparently trivial in itself, is a constitutional one, as relates to them—we shall be excused for stating, that it took them three days to travel from Port Penn to French Town; and the last day they could only be travelled $3\frac{1}{2}$ miles.

They were both sold to Messrs. G. & J. Rusk, victuallers in this market, and by them slaughtered on the 18th day of March—the prime pieces were sold for 50 cents per pound.

☞ Their weight and dimensions ascertained with great care and exactness, here follows:

COLUMBUS.		DELAWARE OX.	
WEIGHT.		WEIGHT.	
Alive	2962	Alive	2688
Head and tongue	24 $\frac{1}{2}$	. . . .	23
Feet	26	. . . .	22 $\frac{1}{2}$
Liver	18	. . . .	20 $\frac{1}{2}$
Heart	10	. . . .	10 $\frac{1}{2}$
Lights	16	. . . .	11
Rough tallow	218	. . . .	273 $\frac{1}{2}$
Hide	154 $\frac{1}{2}$	. . . .	101
Blood	94	. . . .	65 $\frac{1}{2}$
Other offal weigh	222 $\frac{1}{2}$	. . . .	198
	783 $\frac{1}{2}$		731 $\frac{1}{2}$
Neat beef . .	2000	. . . .	1851
	2573 $\frac{1}{2}$		2582 $\frac{1}{2}$
Loss unaccount- ed for }	83 $\frac{1}{2}$	. . . .	105 $\frac{1}{2}$
	2 62		2588

MISCELLANY.

PRINCE GEORGE'S COUNTY.

To the Editors of the National Intelligencer.

GENTLEMEN,—We frequently see in your paper a good deal said about the produce of an acre of land; the weight of a pumpkin, turnip, radish, &c., but I have seen no notice whatever, taken of the products of that section of country immediately adjoining the District of Columbia, to the east.

Prince George's is not a large county, and it may be correctly stated, that the article of tobacco alone, was sold last year by the planters of that county, for nearly a million of dollars; more than six eighths of which was made in the space of less than twenty miles square, and of this there is not the one-twentieth of the land cultivated in that article.

It is generally believed, that those who purchased it, and those who stripped it, have not made less than a clear profit of 20 or 25 per cent. It may not be improper to insert the above in your paper, as it may serve to correct the impressions of strangers visiting the seat of the national government, and show the country to be not so poor and unproductive as it is generally believed to be.

A PLANTER.

One word of commentary on the above.

Let the planters of Prince George's reflect how much the prices of their lands have been raised by an unprecedented advance in the price of tobacco, which may not last many years; then let them consider that by improving their waste lands, how soon they could double the present fertile portions of their farms, in that case, though tobacco should suddenly fail to seven or eight dollars, their estates would still be intrinsically as valuable as they are now. Let every planter look around him, and calculate what proportion of his five, six, eight hundred, or a thousand acres is arable and rich enough to pay an interest on the capital invested, and the labour of cultivation, and compare it with the capital lying dead in waste unproductive land!!!

It is true, however, that there are few counties possessing more solid wealth; few whose exports more exceed their imports; and very few in a state of more rapid improvement; still there is in that county a great portion of waste land, and not a little which is cultivated without skill or economy.—[Edit. Am. Fur.

Society for the Promotion of the Useful Arts.

Albany, March 19.—On the day prescribed by law, the society for the promotion of useful arts proceeded to examine, and award the premiums on specimens of woollen cloth of domestic manufacture. Sixty-two specimens, from different counties, had been received.—The first premium of \$90, was adjudged to Isaac Ogden, esquire, of Delaware county; the second, of \$80, to Vincent Reid, of Saratoga county; and the third, of \$70, to Samuel A. Law, of Delaware county.

Returns of the quantity of cloth, from the clerks of counties, presented for premiums before the respective judges of county courts have only been received from the following, viz:

Herkimer	39 yards.
Onondago	76 1-2
Albany	228
Kings	97
Ulster	110
Madison	352
Montgomery	104
Orange	164
Jefferson	183
Greene	137
Oneida	270
Suffolk	150
Sullivan	110
Rensselaer	105 1-2

Total 2108 yards.

STATEMENT

Of the Receipts and Expenditures of the General Post Office, from the 1st day of January 1814, to the 1st day of January 1819.

Cash remaining on hand, unexpended, January 1st, 1814,	\$71,264 94
Cash received in the	
year 1814,	\$540,906 37
do. 1815,	643,443 97
do. 1816,	759,743 33
do. 1817,	722,232 74
do. 1818,	711,880 69

Receipts of cash in the years 1814, 1815, 1816, 1817, and 1818, 3,378,207 10

3,449,472 04

Expenditures in the	
year 1814,	\$545,215 88
do. 1815,	512,214 90
do. 1816,	601,350 14
do. 1817,	669,501 13
do. 1818,	729,137 70

3,057,399 75

Payments made to the Treasury during the same period, 379,340 44
Aggregate of expenditures and moneys paid into the Treasury for five years, ending January 1, 1819, 3,436,740 19
Leaving a balance in the General Post Office, on the 1st day of Jan. 1819, of 12,731 85

The aggregate amount of neat revenue, from the origin of the establishment up to the 1st Jan. 1818, as far as the same has been ascertained, after deducting the compensation to postmasters, cash paid for the transportation of the mail, and all contingent and incidental expenses, is estimated at \$1,588,264; the aggregate of payments into the Treasury amounted on the 1st day of January, 1819, to \$1,181,728, leaving \$406,536, which constitutes a part of the outstanding debt before mentioned; the neat revenue being stated from the quarterly returns of the postmasters, and not from the balances actually received at the General Post Office. The neat revenue for the year 1818 is not ascertained—the quarterly returns of the postmasters not having yet been all received.

There are now in the United States 3,600 Post Offices.

WAR DEPARTMENT.

Pension Office, March 23, 1818.

An act of Congress of the third of the present month, requires that an examination shall be had biennially of all Invalid Pensioners of the United States, except where the pension shall have been originally granted for a total disability, in consequence of the loss of a limb, or other cause which cannot either in whole or in part be removed—excepting also, those invalid pensioners of the revolution, who have since the passage of the law of the 18th of March, 1818, availed themselves of the provision of that act.

Notice is therefore given, that the subjoined blank form of a certificate for the examining physicians or surgeons, is hereby directed to be observed in all cases embraced by the law of the 3d instant.

The annexed statement showing the amount of pay for each grade of pensioners, according to the ratio of disability, will enable the examining physicians or surgeons, to ascertain, by referring to the certificate of pension, the degree of disability for which the pension was originally granted.

Approved, J. C. CALHOUN,
Sec'y at War

We, the subscribers, practising physicians (or surgeons, as the case may be) of the town (county or city) of ———, do hereby certify, that

after a careful examination of the case of ———, who is now on the pension roll of the state of ———, we are of opinion that his disability does (still, or not, as the case may be) continue.

[Here describe it.]

And further, that the degree of disability under which he labours at present, is (one half, one third, as the case may be) being (here state the degree or insert the word nor) less than the original degree of disability for which he was placed on the pension roll.

Sworn and subscribed to before me }
—this— day of ———. A. B. }
I certify that the deponents are }
credible persons. A. B. }

A Statement, showing the amount of pay for each grade of pensioners, according to the ratio of disability.

Lieutenant Colonel.

Total disability, 30 dollars; three-fourths do. 22 50; two thirds do. 20 dollars; one half do. 15 dollars; one third do. 10 dollars; one fourth do. 7 50 dollars.

Major.

Total disability, 25 dollars; three fourths do. 18 75 dollars; two thirds do. 16 66 $\frac{2}{3}$ dollars; one half do. 12 50 dollars; one third do. 8 33 $\frac{1}{3}$ dollars; one fourth do. 6 25 dollars.

Captain.

Total disability, 20 dollars; three fourths do. 15 dollars; two thirds do. 13 33 $\frac{1}{3}$ dollars; one half do. 10 dollars; one third do. 6 66 $\frac{2}{3}$; one fourth do. 5 dollars.

First Lieutenant.

Total disability, 17 dollars; three fourths do. 12 75 dollars; two thirds do. 11 33 $\frac{1}{3}$ dollars; one half do. 8 50 dollars; one third do. 5 66 $\frac{2}{3}$; one fourth do. 4 25 dollars.

Second Lieutenant.

Total disability, 15 dollars; three fourths do. 11 25 dollars; two thirds do. 10 dollars; one half do. 7 50 dollars; one third do. 5 dollars; one fourth do. 3 75 dollars.

Third Lieutenant.

Total disability, 14 dollars; three fourths do. 10 50 dollars; two thirds do. 9 33 $\frac{1}{3}$; one half do. 7 dollars; one third do. 4 66 $\frac{2}{3}$; one fourth do. 3 50 dollars.

Ensign.

Total disability, 13 dollars; three fourths do. 9 75 dollars; two thirds do. 8 66 $\frac{2}{3}$; one half do. 6 50 dollars; one third do. 4 33 $\frac{1}{3}$; one fourth do. 3 25 dollars.

Non-commissioned Officer, Musician, or private Soldier.

Total disability, 8 dollars; three fourths do. 6 dollars; two thirds do. 5 33 $\frac{1}{3}$; one half do. 4 dollars; one third do. 2 66 $\frac{2}{3}$; one fourth do. 2 dollars.

NOTE.—the highest pension is the half pay of a lieutenant-colonel. All grades below that rank, and not included in the above table, receive allowances proportionate to their monthly pay.

A Receipt for Cleaning Paint, which has been repeatedly tried with success.—1 lb of soft soap, 2 oz. of pearl ash, 1 pint of sand, 1 pint of table becr. Simmer the above in an earthen vessel; be particular that the ingredients are well mixed; put a small quantity on flannel; rub it on the

wainscot; then wash it off with warm water, and afterwards dry it thoroughly with a linen cloth.

It is one of the most important results of chymical science, that the various productions from the distillation of coal, amount to more than six times the price of the original article. A chaldron of New Castle coals, which costs about 3l. will produce:

1 1-4 Chaldrons of Coke, at 31s	41 18 9
12 Gallons of Tar, at 10d	1 10 3
18 Gallons of Ammonia Liquor, at 6d	0 9 0
20,000 Cubic feet of gass, at 15s per 1000 cubic feet.	15 0 0
	18 18 0

AMUSEMENT.

SKETCH OF ENGLISH MANNERS.

EXPOSURE TO SERVANTS.

There is an old French saying which informs us "that no man is a hero to his valet de chambre" I happen to have been long enough in the world to have known France during the ancient regime, before the Revolution, and I can bear testimony to the truth of this maxim in that country.

The princes of the blood and the *haute noblesse*, at that time, put a great deal of confidence in their servants. They treated them with a goodness and familiarity which is not known in colder and more prudent England, where a sense of propriety is the effect of reasoning combined with a sense of our interest. The other orders of nobility and gentry, the votaries of *haut ton* and fashion, naturally imitated the highest ranks. Every one had a confidential valet. Some had more. Many employed a very humble secretary, sprung from the lower order, to write their letters—even their *billets doux*, assignments, proposals, &c. and *soit dit en passant*, some of the half educated, giddy young nobility, wrote such bad French, and worse orthography, that a proxy writer was necessary for the sake of putting his master decently upon paper.

By this means however, their debts, their intrigues, their weaknesses and follies, were quite laid open to their domestics, who sooner or later betrayed them. A certain prince of the blood knows what he confided to Blondin: and many nobles were still worse treated. Some were literally sold: and were the victims of their own incredulity in this respect.

What led me particularly to this subject was, a scape-grace nephew of mine having dropped a letter intended for his "own man," as he is commonly called. He had forgotten to seal it, being frightened by the voice of a dun, which induced him to slip out of my garden gate in the country, and to order his horses round: after which he cantered off for a snug retreat of his own. The letter was verbatim as follows, and addressed to his servant, at his town house:

THE LETTER.

"JOHN THOMPSON—I write this to inform you that I have left my uncle's house. The damned jeweller called there, and it is too hot to hold me any longer. I had given the porter a crown,

with orders to say that if any one called, I was gone to Rangate; but the fellow is a bungling rascal, and not used to town work. Should * * * call in town, swear to him that I have taken a trip to France for a few months. You must tell Bishop to take the bay horse, got by Goldsmith, from the straw-yard; and he is to make him up and sell him. I am convinced that I have overworked him, and that his wind is touched. If this be observed by the buyer, Bishop [*his head groom another confidant!*] must swear that it is nothing but a trifling cough. You'll be glad to hear, that I have got rid of the filly, and of the brown balance horse. The filly is as vicious as hell, and would have broken some of our necks. I sold her to a Portuguese. The horse looked uncommonly well; his coat was like a looking glass. So much for care and antimony! He fetched a hundred and fifty; and an't worth a damn.—Tell this to Bishop, he'll hardly believe it. If Mary Williams comes plaguing me for money give her 5 pounds, but tell her that it is useless to be thus troublesome; swear that I am abroad; that it is in vain to call any more, as you must give her to understand that I will do no more for her. I am quite tired of the girl; and I wish somebody else would take a fancy to her. Apropos, you must pay that woman for linen. Her account is exorbitant; but never mind, there is a very pretty girl who works at the shop, to whom you will deliver the enclosed. I mean to provide for her, and if she receive my letter well, confide to her where I am, and furnish her with the means of coming to me. Speak very highly of me, and I will reward you handsomely for it. I am quite short of clothes; having only twelve pair of trowsers and twenty waistcoats; one black, and one mixture coat, besides the two tunics. I look horribly in the olive brown tunic. It makes me as sallow and bilious-looking as the devil. I only tried it on. I wish that Allen would take it back: let it lie for a day or two on his counter; and to the first *Johnny Raw* of a fellow who wants a tunic in a great hurry, Allen can swear that this one is just made for my lord so and so; and if it fit the *spoony*, he can take it off his hands; otherwise I must keep it. But as for my paying for it, that is quite another matter. The dealer who sold me that balance horse is a damned scoundrel. He thought to do me; but I'm more of a dealer than him! The *greenhorn*, who bought him of me, is just emerged from Westminster, and I make clear sixty guineas by the transaction. I send by the carrier the last two pair of dress pantaloons: they must be altered. You know that I am a little what is vulgarly called baker-kneed, which I explained to the German fool who made them. A pad would remove the defect. What an ass a tailor must be who can't fit a man well, be his deformities what they may! Apropos—I must have six new pair of staves by the time I return, and six pair of spurs from Vincent's. Long's is a devil of a bill—but it will never be paid. I do not recollect any thing else, only keep peace among my undutiful and clamorous creditors. Signed as usual.

"P. S. Tell Bishop I have sold the brace of pointers for fifty guineas. Don't cost me half that sum. I bought them of Sir George. The

lean dog an't worth a guinea, and never cost me but three; so I don't lose there, I shall remit you money in a post or two."

The Hermit in London.

EPIGRAM.

At the Inn of Bethkellert, at the foot of Snowden, is an *album* in which many a young traveller has tried to flutter his unfledged poetic pinions on a summer evening. Dr. B. unwilling to pass through so interesting a country without leaving some memorial of his having done so; but having been perhaps disappointed of an interview with any of the *coy nuns* on the Peak of Snowden, and perhaps fatigued with his journey, left this laconic entry:

"Dr. B——k stopt the night."

This produced the following or something like it;

"In scripture we are told,

That Joshua of old

Stopt the day, while he thrash'd the Philistines;

Here all Wales was in a fright—

Dr. B—— *stopt the night*,

Whilst he staid to refresh his intestines."

The following address from the mayor, to queen Elizabeth, is a model of simplicity and elegance. Her majesty's answer is in the same spirit, and cannot be objected to on any other ground, than its being *borrowed* from that to which it is a reply.

We men of Coventry, are very glad to see
Your gracious majesty; Good Lord! how fair
you

ANSWER.

My gracious majesty, is very glad to see
You men of Coventry: Good Lord what
fools you be!

It were well if all authors of fulsome addresses could receive such candid answers.]

Love and devotion.—The agreeable Menage has this acute observation on the writings of Love and Devotion—"Books of Devotion and those of Love are alike bought. The only difference I find is, that there are more who read books of Love than buy them; and there are more who buy books of Devotion than read them."

Bishop Latimer preached in the year 1527 a sermon in which he says, "Now, ye have heard what is meant by this *first card*, and how ye ought to *play*; I propose again to *deal* unto you another *card* of the same *suit*; for they be of so nigh affinity, that one cannot be *well played* without the other."

BALTIMORE:

FRIDAY, APRIL 2, 1819.

TO THE PUBLIC.

It was observed, by a man proverbial for his wisdom, that "KNOWLEDGE IS POWER:" and there is perhaps no pursuit in life, wherein the truth of that saying is more frequently exemplified, than in the various conditions, and fortunes of those, who live, *by the cultivation of the soil*.

How often does it happen that young men coming by inheritance to ample fortunes, patient

of labour, and anxious to accumulate, yet become every day more involved, and presently behold their last acre struck off under the sheriff's hammer; all for want of *skill* in "the management of their resources;" for want of that "knowledge which is power." Much, it is true, depends upon *industry*, but of what avail is more passive industry, without judgment to apply it? like a fine horse, spirited, vigorous and full of animation, yet if he be blind, leave him without a guide, and he will soon throw himself over the cliff or plunge into the ditch.

The great aim, and the chief pride, of the "*American Farmer*," will be, in collect information from every source, on every branch of Husbandry, thus to enable the reader to study the various systems which experience has proved to be the best, under given circumstances; and in short, to put him in possession of that knowledge and skill in the exercise of his means, without which the best farm and the most ample materials, will remain but as so much *dead capital* in the hands of their proprietor.

Besides articles on the main subject of the paper, it will present original and selected essays and extracts calculated for amusement or instruction, and *substantial* details of passing occurrences—and, finally, it will contain a faithful account of the actual prices of all those *principal* articles, which the people of the country generally have to buy, or to sell, in the Baltimore market.

But, as the Editor is aware that "to *promise* is most courtly and fashionable," he will therefore only add, that the *American Farmer* will be conducted on broad and liberal principles, containing nothing indecorous or personally offensive to the feelings or character of any sect or individual. And further, that if at the end of the year, any subscriber should think he has not received his "penny'orth" he shall be at liberty to withdraw, and his subscription money shall be repaid to him on demand.

TERMS.

The price of subscription is \$4 per annum; payable in advance.

All Postmasters are authorised and requested to receive subscriptions and to retain 10 per cent. on the amount collected for the Editor.

The Editor has taken the liberty to forward the first number of the *American Farmer* to some gentlemen whose names occurred to him at the moment, and who he thought would be likely to patronize a work of this kind.

He begs, that, if they approve of the plan of it, they will make it known, and by any convenient means assist in extending its circulation.

The Editor will be highly gratified, if, by devoting his leisure hours to a publication of this sort, he can be instrumental in preventing his native state, from being outstripped by all her neighbours, in the honourable contest for the promotion of agriculture, manufactures, internal improvement and domestic economy.

He entreats the correspondence of gentleman qualified by study, reflection, or experience, to add even one ray of light to the common stock of intelligence on these all important subjects.

Farmer, are respectfully referred to the advertisements of *seed*, in this paper, implements of Husbandry, &c.

The Editor takes this opportunity of informing them, that when they wish to procure any thing in this way, if they choose to enclose him the money, with *specific* directions, he will cause them to be purchased and forwarded to them, without any charge whatever.

Authors of all new inventions; particularly those connected with Agriculture and Domestic Economy, may here make known their discoveries, and to have them better exemplified by cuts, the Editor will even pay the expense of engraving, if necessary.

A small portion of the *American Farmer*, will be open for advertisements relating to Literature, Useful Inventions, Sale of Lands, Live Stock, Seed, Farming Utensils, &c. For these, a charge will be made at the rate of \$1 50 per square for three insertions.

NEW DISCOVERY IN THE ART OF MAN KILLING, *authorship disputed claimants—Mr. Hall, Dr. Thornton and Marshall Saxe—compromise proposed.*

We are told, in a way that makes it impious to doubt, that *man*—proud, vain, boasting man is made after God's own image, and elevated in the scale of reason and dignity, to an immeasurable altitude above every other created being: yet if we search through the whole range of the animal kingdom, we find no one family so incessantly and maliciously engaged in destroying each other, as the family of mankind. From the days of *David* and of *Moses*, to the present hour, nothing has so intensely exercised the genius and the heart of man, as the study to devise something new — in the art of *man-killing*.

With all our pretended benevolence, the most renowned, and the most honoured of the species, have always been those who have been most successful in the game of human slaughter. The benedictions of the church and the shouts of the populace, have attended, in all ages, the most profuse spillers of human blood; and, up to the present moment, with all our boast of the exclusive possession of reason, and our professions of piety and pretensions to benevolence, there can be no doubt, that he who should discover the philosopher's stone itself, could not more readily command all that is esteemed necessary to constitute "the good things of this life," than he who should invent a warlike instrument, which by a single discharge, should with certainty, destroy at the greatest distance, countless thousands of his fellow beings, not one of whom might have ever seen or personally injured him!!! What man so pious, who would not avail himself of the worldly advantages he could derive from such an invention! Some, there may be, but perhaps there are not many.

We must not be understood as throwing out these suggestions to repress the spirit of invention, or with the idle hope of eradicating the love or the practice of war;—as well might we expect the Chesapeake to remount to its source; we do it to exhibit to human pride and self sufficiency, the picture of *human dignity and benevolence*; and because it is peculiarly within the scope of our undertaking to notice all *new inven-*

Note.—The subscribers to the *American*

tions. We have hastily traced a train of thought which grew out of the contest between Messrs. Hall and Thornton, for the honour of a late discovery, in this grand art of anticipating Providence in the destruction of human life.

The Editors of the *Federal Republican*, complimented Mr. Hall in very handsome terms, and claimed for him the liberal patronage of the government very justly—provided his claim, as *inventor* be well founded. Doctor Thornton the *keeper of the Patent-office*, however, says the idea first sprouted in his brain, was cultivated, engrafted upon, and improved by Mr. Hall, and that they agreed to make it the "child of two fathers." But to render this anomalous hantling of two fathers still more extraordinary, a writer in the *National Intelligencer* of Tuesday last, avers, that it came into the world before either of its reputed sires; he avers it to be an offspring from the military lobe of the renowned Marshall Saxe's cranium.—But may we not, in charity compromise the dispute about this weapon of death, by supposing it to have been the separate and independent growth of three congenial minds, exercised, without concert, upon the same subject—as so many similar sparks struck from the flints of the same quarry?

The writer in the *National Intelligencer* supports his impeachment of the claims of Messrs. Hall & Thornton by the following extracts from the reveries or memoirs of the said renowned Marshall Saxe—published in London early in the last century.

"Of the Legion."

Page 30.—"The light armed foot are in like manner to be supplied by their respective regiments, the centurions electing the youngest and most active; their arms must consist of nothing more than a very light fowling piece and bayonet with a handle to it, which will at the same time answer the purpose of a sword: this fowling piece is to be made so as to open and receive the charge at the breach, in order to avoid the inconvenience and loss of time in ramming it down."

"Of the arms and accoutrements for man and horse."

Page 48—"The men are to have rifled* carbines, which carry much further than any others, and are more easily loaded, as the ramming down of the charge will be avoided which is very difficult to be performed on horseback: the bore of the barrel must be narrow, which will increase the violence of the ball in its discharge."

"Of Small Arms."

Page 78—"I have alone recommended the rifled fusée, as it is charged quicker, and carries not only further, but with more exactness. According to the present method of loading, the soldiers, in the tumult and hurry of an engagement, very seldom ram down their charge, and are also very apt to put the cartridge into the barrel, without biting off the cap, by neglecting to

* "This kind of carbine, by the assistance of a spring, opens at the breech, and as has before been observed, receives the charge there. The barrel is also rifled, on which account, and in order to avoid a circumlocution, that epithet only will, for the future, be made use of to express this entire piece of machinery."

do which, many of the arms are of course rendered useless.

"In order to obviate this mischief, I would have the charge larger than the muzzle of the pieces, that the men may not be able, through carelessness, to load that way: they should also be made of parchment, and pasted up at the tops which would be easily uncased with the teeth; and they ought to contain a sufficient quantity of powder for both the priming and charge; the balls are to be carried in the pouches, which, in action, the men are to take out by four or five at a time, and to hold them in their mouths, for the sake of more readiness in loading."

GREENLAND.

That part of the fleet which was lately fitted out in England, in order to make discoveries towards the North Pole, has returned without accomplishing any thing very useful; it did not even penetrate, by three or four degrees, so far as some of the whalers had done before.

But it was necessary to have something new to say, to keep up the curiosity of the public, accordingly the commanders of the vessels tell us that they have discovered a new nation, or tribe of Greenlanders, never before known by other navigators. This new tribe, we are told, are a very happy people; they ride in whale-bone carriages drawn by dogs; they are comfortably clothed in bears' skins, and fed deliciously on the flesh and blood of bears and whales.—In short, they are the happiest people in the world, and think that the inhabitants of the southern regions must be very miserable in consequence of eternal ice and snow; and, to crown their happiness, the sexes are extremely loving to each other, even surpassing the romantic ideas which we have formed of Arcadian love and felicity.—The author of this account having said, "that war is unknown in this newly discovered country, and that love only was present to them" gave occasion to the following lines, as it has always been understood, that, towards the North Pole, one half of the year is one continued day, and the other half all night, consequently, inferring, that with the Greenland lovers, the winter season must be to them the happiest part of the year.

IMPROMPTU.

Occasioned by reading a late description of Greenland.

O happy Greenland! Happy Swains!

Who ne'er the deadly war-trump hear;

Where gentle love triumphant reigns,

And every night is—half a year.

QUESTION.—Could not stone valves be fixed to gutters of houses and stores, similar to those used in Bathing Tubs, with a copper chain attached to the upper window frames that they might be conducted into the leaden tubes in cases of fire, and thereby retain water thrown by engines?

A GREAT PUBLIC CONVENIENCE.

Arrangements have been completed, establishing a regular line of packets between New York and Liverpool. These packets consist of the Amity, the Albion, the Courier, and the James Monroe; all recently built in New York, of the best materials, coppered and copper fastened, and proved to be very fast sailers.

One packet departs from New York, for Liv-

erpool, on the 10th, and from Liverpool for New York, on the 1st of every month in the year, with as much regularity as the steam boats from our wharves.

The price of a passage to England, in the cabin, is forty guineas; for which sum passengers are provided with beds and bedding, wine and stores of every description.

Under this arrangement, any person residing in any part of the United States, desiring to visit Europe, may calculate the time it will require to travel to New York, so as to reach there the preceding evening, with a certainty of embarking the next day.

Summary of Intelligence.

"A brief Abstract and Chronicle of the Times."

The hurry, necessarily incident in preparing and arranging for the first number of a public print, has precluded that attention to matter for this head, which it is our intention hereafter to bestow upon it.

A PROPER MEASURE.

The City Council, by a resolution of the 24th instant, have requested the Mayor, (advised by the Attorney for the corporation) to bring the question of legislative interference in city affairs in such form before that body, as will lead to a full and express definition of the limits proper to be prescribed to the city authorities. Baltimore, is literally, at present, an incorporated city with, neither rights nor privileges! A constant, irregular and absurd interference in our local affairs by the legislature, renders every thing attempted to be done by the city authorities, either as it regards improvement, revenue or order, uncertain in its continuance, and consequently of little avail.

Two hundred dollars have been placed in the hands of Bishop Kemp by Mr. George Elliot, the profits on the Bakewell Sheep, lately sold in this city, for charitable purposes. Fifty Dollars of the amount were bestowed on the Female Orphan Charity School; and one hundred and fifty upon the Benevolent Society for the Education of Female Orphans. For the seventeen sheep on which this profit of 200 dollars was realized, it is said, Mr. Elliot paid 20 dollars each; but we shall give a detailed account of them hereafter. The fact is mentioned in the meantime, as "food for reflection" for the Farmers of Maryland. We are sorry to have it to say, that the sheep came from—another state

WORTHY OF IMITATION.

The Presidents of the several Banks in Savannah, have offered a reward of two thousand dollars for the apprehension and conviction of the person or persons concerned in altering the bills of any of the banks in that city. If such were to be the practice acted upon by the other banks of the Union, the probability is that a nefarious set of villains, prowling about the country, would very soon be driven to the necessity of seeking honest means for a livelihood. To the little interest perhaps taken by banks, or those concerned in them on this subject, may be attributed the vast quantity of spurious paper money in circulation. While they profit by the community,

is but fair they should take some pains, and incur some hazard in order to screen that community from evils: particularly under present circumstances, when they alone who are concerned in these establishments, are almost exclusively the benefited. It has been suggested, that the poor and the simple, ought not to be the sufferers, from their unlucky receipt of counterfeit money. It has been said, and truly, and we certainly think justly, that were the wise and the rich, the knowing ones, those whose "mark is law," made to incur all losses occasioned by false paper finding its way into circulation, that they would very soon find out the way and the means, to check an abuse, unparalleled perhaps in any country.

Naval General Order.—By late Rules and Regulations for the Naval service, Midshipmen are to undergo an examination before promotion. An examination is to take place on the 4th of October next, and none are entitled to the privileges, whose warrants bear date subsequent to the 1st January, 1813.

The President, it is said, has directed a messenger to be forthwith despatched to Madrid, and Mr. J. H. Purviance, of the department of state, has been appointed bearer of despatches on the occasion.

It is said, the Hon. John Randolph has consented to become again a candidate for congress; and it is said further, that he will not probably be opposed. In which case, if we, in vulgar phrase, have much *jaw*, we shall also be furnished with a little *attic reasoning*.

A public dinner was given to Gen. Jackson at Winchester, Vir. on the 13th inst.

Our distinguished countrymen, Col. Trumbull, has been elected a member of the Royal Academy of Naples.

Actual Sales of Country Produce within the last week; with remarks, for the more particular information of our country subscribers.

TOBACCO—May be quoted, second quality, from \$9 to 11; first do. from \$12 to 13 50.—Ten hogsheads from Talbot county, sold yesterday for \$10 50 and 12 50, on a credit. This article has fallen in price, and is dull sale—little selling for cash, though there is not much in the market.

WHEAT, RED—From \$1 50 to 1 60, none in market of the best quality—300 bushels, made by Mr. Robert Gamble, of Kent county, sold yesterday for \$1 60.

WHEAT, WHITE—\$1 55 to 1 60.

CORN—55 cents.

RYE—80 cents.

OATS—50 cents.

BEST BEEF—Retail, 12½ cents.

To Merchants and Others.

To facilitate correspondence between this city and England, a special mail will be made up at the Baltimore Post Office, at 4 o'clock, P. M. on the seventh day of every month, for letters to go by the American Packets, which sail from New York for Liverpool, on the 10th day of every month in the year. The inland postage on such letters, must be paid at this office.

J. S. SKINNER, P. M.

Baltimore.

Agricultural Repository, For Seeds, Books, Implements of Husbandry, &c.

J. P. CASEY, No. 2, Hanover Street, adjoining Mr. Gadshy's Hotel, has received from different parts of Europe, (where they could be best procured,)

THE FOLLOWING

Seeds and Flower Roots, viz:

20 varieties of Cabbage Seeds, including those which Cobbett mentions in his last 6 Months' Residence.

6 varieties of Broccoli and Cauliflower Seeds, adapted to the climate of this country.

6 do. of Beets, two sorts of which are a very fine Spinach, and a substitute for Asparagus.

8 do. of Lettuce, 2 sorts of which sell in Europe for 12 shillings sterling per ounce.

6 do. of Radishes (very beautiful) do.

6 do. of Turnips. Other varieties too numerous to mention.

ALSO,

A numerous Variety of Flower Seeds,

Made up in small packages: amongst the latter is carnation. Pheasant-eyed Pink; and Auricula, at 25 dollars per oz. The above are all genuine, and adapted for all parts of the union.

To close the sale of his Flower Roots, he will sell the following Roots at reduced prices, viz:

Double Anemones, of sorts

Do. Ranunculuses, scarlet and Persian do.

Do. Tulips, mixt

Do. Carnation Tulips

Do. Yellow Rose do.

Best Dutch single Tulips

Parrotquet do.

Polyanthus, Narcissus, and Tuberoses.

What we admire, we praise; and when we praise,

"Advance it into notice, that its worth

"Acknowledged, others may admire it too."

JUST PUBLISHED,

The Farmers and Gardeners' Hive,

Showing the expense and profit attending the cultivation of 300 acres of land, and so in proportion for any other quantity, with a table directing the proper quantity of different sorts of seed or grain necessary to be sown on an acre of land, either for drill or broad cast husbandry.—To which is added, the Farmers and Gardeners' Callendar, showing what is necessary to be done on the farm and in the garden for every month in the year; with many valuable recipes necessary for the farmer in cultivating his land and protecting his fruit-trees from all sorts of diseases, insects, &c. Also to preserve sheep from the rot, to make poultry lay eggs, make good cheese; to ensure an abundant crop of grapes, apples, pears, peaches, gooseberry and currants; and to protect vegetables of every description from caterpillars and other insects. To be had at his seed store, with his signature annexed—Copy right secured according to law.

* * AGRICULTURAL SEEDS, such as Clover, Timothy, Flax, Orchard, &c. bought or exchanged for other Seeds.

April 2.

To Agriculturists, &c.

F. STEWART & SON, respectfully inform their friends and the public, that they have on hand, and offer for sale, a general assortment of Agricultural Implements, among which is the celebrated *Screw mould board Plough*, which has been so much approved of by some of the best farmers in this county, both for its execution and ease to the horses, which has been ascertained to a certainty by a steelyard constructed expressly for the purpose. The screw mould board plough running only four hundred weight to the horse, whilst others, doing only the same execution, run six.

Those who have not an opportunity of judging of the superiority of this useful implement, would do well to call at their Factory, on the Philadelphia road, near the Columbian Gardens, where the following articles are likewise manufactured:

Machines for sowing clover and timothy seeds; ditto for planting Indian corn at any required distance; Turnip drill machines; Drilling and Horse-hoe Ploughs; Harrows of all kinds; Hay and Dung forks; Picks and Pick-axes, Iron Axletrees for wagons and carts; and all kinds of iron work done on the shortest notice, and on the most reasonable terms.

April 2

4t

Fresh Garden and Flower Seeds.

THE following imported Seeds were selected by one of the first Gardeners in the country, who went to Europe expressly for the purpose. Likewise, are received, an assortment of the celebrated Shaker's Seeds. Among them are the following, viz:

15 kinds of Beans, 6 ditto Radishes, 7 ditto Beet, 7 do. Cucumbers, 20 do. Cabbages, 9 do. Lettuce, 6 do. Turnips, 3 do. Onions; Asparagus, Celery, (solid) curled Parsley, Garden Cresses, round and prickly Spinach, Sweet Marjoram, Mangel Worzel, Salsafy, or Vegetable Oyster; Cauliflower, Carrots, Melons, &c. 100 kinds of Flower Seeds. Also, the Gentleman and Gardner's Calender, containing full instructions respecting Gardening, for sale at No. 223½, Market Street, opposite the Farmers and Merchants' Bank.

April 2.

8t

TO PRINTERS.

THE Subscriber informs the Printers generally of this city and state, that he is agent for Messrs. Reich, Starr & Co. Type Founders, Philadelphia, and will receive any orders for type from the establishment, which for durability and beauty, is acknowledged to be equal to any ever manufactured.

WM. REDDING,

Corner of South and Market Street, at the office of the "American Farmer."

April 2.

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,

BALTIMORE,

AT FOUR DOLLARS PER ANNUM,

PAYABLE IN ADVANCE.

8t

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, APRIL 9, 1819.

NUM. 2.

AGRICULTURE.

The RUTA BAGA or SWEDISH TURNIP.

FROM COBBETT'S YEAR'S RESIDENCE.

(Continued from No. 1, page 3.)

QUALITY AND PREPARATION OF THE LAND.

As a fine, rich, loose, garden mould, of great depth, and having a porous stratum under it, is best for every thing that vegetates, except plants that live best in water, so it is best for Ruta Baga. But I know of no soil in the United States, in which this root may not be cultivated with the greatest facility. A pure sand, or a very stiff clay, would not do well certainly; but I have never seen any of either in America. The soil that I cultivate is poor, almost proverbially; but what it really is, is this: it is a light loam, approaching towards the sandy. It is of a brownish colour, about eight inches deep, then becomes more of a red for about another eight inches: and then comes a mixture of a yellowish sand and of pebbles, which continues down to the depth of many feet.

So much for the nature of the land. As to its state, it was that of as complete poverty as can well be imagined. My main crop of Ruta Baga was sown upon two different pieces. One of about three acres, had borne, in 1816, some Indian Corn Stacks, together with immense quantities of brambles, grass and weeds, of all descriptions. The other, of about four acres, had, when I took to it, Rye growing on it; but this Rye was so poor, that my neighbour assured me, that it could produce nothing, and he advised me to let the cattle and sheep take it for their trouble of walking over the ground; which advice I readily followed; but when he heard me say, that I intended to sow Russia turnips upon the same ground, he very kindly told me his opinion of the matter, which was, that I should certainly throw my labour wholly away.

With these two pieces of ground I went to work early in June. I ploughed them very shallow, thinking to drag the grassy clods up with the harrow, to put them in heaps and burn them, in which case I would. (barring the fly!) I have pledged my life for a crop of Ruta Baga. It adversely happened to rain when my clods should have been burnt, and the furrows were so solidly fixed down by the rain, that I could not tear them up with the harrow; and besides, my time of sowing came on apace. Thus situated, and having no faith in what I was told about the dangers of deep ploughing, I fixed four oxen to a strong plough, and turned up soil that had not seen the sun for many, many long years. Another soaking rain came very soon after, and went, at once, to the bottom of the ploughing, instead of being carried away instantly by evaporation. I then harrowed the ground down

level, in order to keep it moist as long as I could; for the sun began to be the thing most dreaded.

In the mean while, I was preparing my manure. There was nothing of the kind visible upon the place. But I had the good luck to follow a person, who appears not to have known much of the use of brooms. By means of sweeping and raking and scratching in and round the house, the barn, the stables, the henroost, and the court and yard, I got together about four hundred bushels of not very bad turnip manure. This was not quite sixty bushels to one acre for my seven acres; or, three gallons to every square rod.

However, though I made use of these beggarly means, I would not be understood to recommend the use of such means to others. On the contrary, I should have preferred good and clean land and plenty of manure; but of this I shall speak again, when I have given an account of the manner of Sowing and of Transplanting.

MANNER OF SOWING:

Thus fitted out with land and manure, I set to the work of sowing, which was performed, with the help of two ploughs, and two pair of oxen, on the 25th, 26th, and 27th of June. The ploughman put the ground up into little ridges having two furrows on each side of the ridge; so that every ridge consisted of four furrows, or turnings over of the plough; and the tops of the ridges were about four feet from each other; and as the ploughing was performed to a great depth, there was, of course, a very deep gutter between every two ridges.

I took care to have the manure placed so as to be under the middle of each ridge; that is to say, just beneath where my seed was to come. I had but a very small quantity of seed as well as of manure. This seed I had, however, brought from home, where it was raised by a neighbour, on whom I could rely, and I had no faith in any other. So that I was compelled to bestow it on the ridges with a very parsimonious hand, not having, I believe, more than four pounds to sow on the seven acres. It was sown principally in this manner: a man went along by the side of each ridge, and put down two or three seeds in places at about ten inches from each other, just drawing a little earth over, and pressing it on the seed, in order to make it vegetate quickly before the earth became too dry. This is always a good thing to be done, and especially in dry weather and under a hot sun. Seeds are very small things, and though, when we see them covered over with the earth, we conclude that the earth must touch them closely, we should remember, that a very small cavity is sufficient to keep them untouched nearly all round, in which case, under a hot sun, and near the surface, they are sure to perish, or, at least, to lie long, and until rain come before they start.

I remember a remarkable instance of this in sowing some turnips to transplant at Botley. The whole of a piece of ground was sown broadcast.

My gardener had been told to sow in beds, that we might go in to weed the plants; and having forgotten this till after sowing, he clapped down his line, and divided the plot into beds by treading very hard a little path at the distance of every four feet.

The weather was very dry, and the wind very keen. It continued so for three weeks, and, at the end of that time, we had scarcely a turnip in the beds, where the ground had been left raked over, but, in the paths, we had an abundance, which grew to be very fine, and which, when transplanted, made part of a field which bore thirty-three tons to the acre, and which, as a whole field, was the first I ever saw in my life.

I cannot help endeavouring to press this fact upon the reader. Squeezing down the earth makes it touch the seed in all its parts, and then it will soon vegetate. It is for this reason, that barley and oat fields should be rolled, if the weather be dry: and, indeed, that all seeds should be pressed down, if the state of the earth will admit of it.

This mode of sowing is neither tedious or expensive. Two men sowed the whole of my seven acres in the three days, which, when we consider the value of the crop, and the saving in the after culture, is really not worth mentioning. I do not think, that any sowing by drills so good, and, in the end, so cheap as this. Drills miss very often in the sowing of such small seeds. However, the thing may be done by hand in a less precise manner. One man would have sown the seven acres in a day, by just scattering the seeds along on the top of the ridge, where they might have been buried with a rake, and pressed down by a spade or shovel or some other flat instrument. A slight roller to take two ridges at once, the horse walking in the gutter between, is what I used to make use of when I sowed on ridges, and who can want such a roller in America, as long as he has an axe or an augur in the house? Indeed this whole matter is such a trifle, when compared with the importance of the object, that it is not to be believed, that any man will think it worth the smallest notice, as counted amongst the means of obtaining that object.

Broadcast sowing will, however, probably, be in most cases, preferred; and, this mode of sowing is pretty well understood from general experience. What is required here, are, that the ground be well ploughed, finely harrowed, and the seeds thinly and evenly sown over it, to the amount of about two pounds of seed to an acre; but, then, if the weather be dry, the seed should by all means, be rolled down. When I have spoken of the after culture, I shall compare the two methods of sowing; the ridge and the

broadcast, in order that the reader may be the better able to say, which of the two is entitled to the preference.

AFTER CULTURE.

In relation to what I did in this respect, I shall take it for granted, that the reader will understand me as describing what I think ought to be done.

When my ridges were laid up, and my seed was sown, my neighbours thought, that there was an end of the process; for, they all said, that, if the seed ever came up, being upon those high ridges, the plants never could live under the scorching of the sun. I know, that this was an erroneous notion; but, I had not much confidence in the powers of the soft, poor as it evidently was, and scanty as was my supply of manure.

The plants, however, made their appearance with great regularity; no fly came to annoy them. The moment they were fairly up, we went with a very small hoe and took out all but one in each ten, eleven, or twelve inches, and thus left them singly placed. This is a great point; for they begin to rob one another at a very early age; and if left two or three weeks to rob each other, before they are set out singly, the crop will be diminished one half. To set the plants out in this way was a very easy and quickly performed business; but it is a business to be left to no one but a careful man. Boys can never safely be trusted with the deciding at discretion, whether you shall have a large crop or a small one.

But now something else began to appear as well as turnip-plants; for all the long grass and weeds having dropped their seeds the summer before, and probably, for many summers, they now came forth to demand their share of that nourishment, produced by the fermentation, the dews, and particularly by the *Sun*, which shines on all alike. I never saw a fiftieth part of so many weeds in my life upon a like space of ground. Their little seed leaves, of various hues formed a perfect mat on the ground. And now it was, that my *wide ridges*, which had appeared to my neighbours to be so very singular and so unnecessary, were absolutely necessary. First we went in with a hoe, and hoed the *tops* of *ridges*, about six inches wide. There were all the plants, then, clear and clean at once, with an expense of about half a day's work to an acre. Then we came, in our Botley fashion, with a single plough, took a furrow from the side of one ridge going up the field, a furrow from the other ridge coming down, then another furrow from the same side of the first ridge going up, and another from the same side of the other ridge coming down. In the taking away of the last two furrows, we went within *three inches* of the turnip-plants.—Thus there was a ridge over the original gutter. Then we turned these furrows back again to the turnips. And, having gone, in this manner, over the whole piece, there it was with not a weed alive in it. All killed by the sun, and the field as clean and as fine as any garden that ever was seen.

Those who know the effect of *tillage* between growing plants, and especially if the earth be

moved deep; and, indeed, what American does not know what such effect is, seeing that, without it, there would be no Indian Corn; those that reflect on this effect, may guess at the effect on my Ruta Baga plants, which soon gave me, by their appearance, a decided proof, that TULL's principles are always true, in whatever soil or climate applied.

It was now a very beautiful thing to see, a regular, unbroken line of fine, fresh-looking plants upon the tops of those wide ridges, which had been thought to be so very whimsical and unnecessary. But, why have the ridges so *very wide*? This question was not new to me, who had to answer it a thousand times in England. It is because you cannot plough deep and clean in a narrower space than four feet; and, it is the deep and clean ploughing that I regard as the surest means of a large crop, especially in poor, or indifferent ground. It is a great error to suppose, that there is any ground *lost* by these wide intervals. My crop of *thirty-three tons*, or *thirteen hundred and twenty bushels* to the acre, taking a whole field together, had the same sort of intervals, never arrived at two-thirds of the weight of that crop. There is no *ground lost*; for, any one who has a mind to do it, may satisfy himself, that the *lateral roots* of any fine large turnip will extend more than *six feet* from the bulb of the plant. The intervals are full of these roots, the breaking of which and the moving of which, as in the case of Indian Corn, gives new food and new roots, and produces wonderful effect on the plants. Wide as my intervals were, the leaves of some of the plants very nearly touched those of the plants on the adjoining ridge, before the end of the growth; and I have had them frequently meet in this way in England. They would always do it here, if the ground were rich and the tillage proper. How, then, can the intervals be too wide, if the plants occupy the interval? And how can any ground be lost, if every inch be full of roots and shaded by leaves?

After the last-mentioned operation, my plants remained till the weeds had again made their appearance; or, rather, till a new brood had started up: when this was the case, we went with the hoe again and cleaned the tops of the ridges as before. The weeds, under this all-powerful sun, instantly perish. Then we repeated the former operation with the one horse plough. After this nothing was done but to pull up now and then a weed, which had escaped the hoe; for, as to the ploughshare, nothing escapes that.

Now, I think that no farmer can discover in this process any thing more difficult, more troublesome, more expensive, than in the process absolutely necessary to the obtaining of a crop of Indian Corn. And yet, I will venture to say, that in any land, capable of bearing *fifty bushels* of corn upon an acre, more than a thousand bushels of Ruta Baga may, in the above described manner, be raised.

In the Broad-Cast method, the after culture must, of course, be confined to *hoeing*, or as TULL called it, *scratching*. In England, the hoer goes in when the plants are about four inches high, and hoes all the ground, setting out the plants to about eighteen inches apart; and, if the ground be at all foul, he is obliged to go in again in about

a month afterwards, to hoe the ground again. There is all that is done; and a very poor all it is, as the crops, on the very best ground, compared with the ridged crops, invariably show.

(TO BE CONTINUED.)

From the last Massachusetts Repository and Journal.

One of the most successful experiments in agriculture that we have ever known, is that of the Alms house farm in Salem, which is under the superintendence of Mr. Paul Upton.

This farm consists of about thirty-five acres, as we are informed, and was, two years since, in a state of nature, and very rough land. It has been brought to, and the produce during the year 1818, is as follows:

Pork killed, weight, 7960 lbs.

Twelve live pigs sold for \$42.

On hand fifty-seven live pigs.

Corn 400 bushels.

Potatoes 2250 bushels.

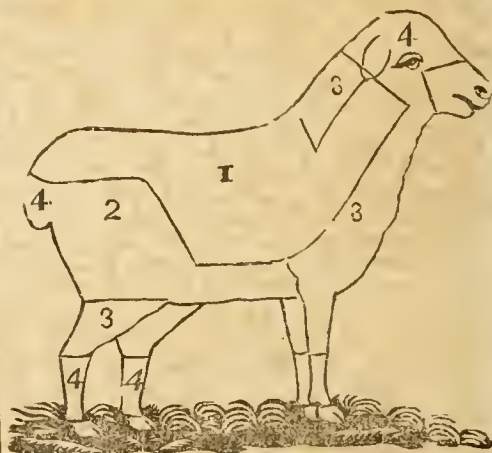
Turnips 900 bushels.

Three tons of squashes.

Fifty tons pumpkins.

All the common summer vegetables for the Alms-house.

We doubt whether any farm in the United States has produced more in proportion to its size, and it is a proof what well directed industry can effect.



The Spaniards sort their wool into four parcels of different degrees of fineness, as marked in the above figure. These they pack in sacks for market, marked:

No. 1. *Rafina*.

No. 2. *Fina*.

No. 3. *Tercira*.

No. 4. *Cuhida*.

The Seventeen Bakewell Sheep.

In our last, we engaged to give a more particular account of the seventeen Bakewell sheep from which Mr. G. Elliot, a respectable victualler in our market, lately realized a profit of \$20 which he generously bestowed, through the politeness of the Reverend Bishop KEMP, upon two Female Orphan Charity Schools.

When it is recollected that the *neat profit*, in this case, was double the usual *prime cost* of that number of common sheep, and that those seven-teen cost \$20 each, it may well be a matter of curiosity to know, under what particular circumstances, or for what extraordinary qualities, they sold at so high a rate.

Were it possible for us to describe exactly, their *extraordinary fatness*, those who may never have seen any sheep of this breed, might naturally be expected to hesitate in giving credence to what they would find to exceed, so far, any thing usually seen in such cases: we can, however, confidently affirm, that the difficulty in examining a piece of this mutton was, not in finding any *fat*, but in finding any portion of lean meat. It will hardly be believed, that one of them cut more than *four inches of clear fat on the ribs*; yet, it is in accordance with the general appearance of all we saw in the market, and the particular fact is vouched in a way that leaves us without any doubt of its correctness.

With respect to this breed of sheep, in England, where they are known by the name of the New-Leicester or Dishley breed, we are told the reason for killing them at two years old instead of three, the age at which these were killed, is, that after two years, they get too fat for genteel tables; and that, in fact, they are considered, from the great proportion of fat they are disposed to carry, as more fitly adapted to the use of the labouring class of people; and that they are, accordingly, reared for, and confined to, the manufacturing districts.

The *saddle* of one of these muttons, weighed *eighty-eight pounds*, and was sold to a gentleman distinguished for his liberality, for \$33 20. After this, who shall say that no encouragement is given, in this country, to the breeder of fine mutton? It is not always, however, that those who can best afford it, are the most ready to patronise those who lead in the way of honourable industry and public spirit. Nor should the farmer or the butcher deceive himself with the hope that such prices are to be permanently relied on, even for such sheep. This was an extraordinary occasion—such a collection of mutton had never been exhibited in our market before; and as the charitable design of the owner had been previously announced—he found no difficulty in getting, for the greater part of it, 37½ cents a pound. But it must be seen that a much less price than that, would have handsomely rewarded the grazer and the butcher.

It was not before the middle of the last century, that agriculturists began to study thoroughly, the breeds of domestic animals; until then, it had been the custom to select for *the table*, the best of every flock, leaving the refuse for breeders.

ROBERT BAKWELL, so celebrated in agricultural annals, led the way in abolishing a practice so repugnant to common sense. Speaking of Mr. Bakewell's system of breeding, an English writer makes the following observations:

"Availing himself of the observations which he had made on different animals, the certain peculiarities of form were always attended by a disposition to grow fat, and that animals inherit this disposition from their ancestors; and if they are kept free from intermixtures with other

breeds, in the course of a few generations the peculiar properties will be perpetuated, and form a distinct race; the laws of animal life being, in this respect, regular and permanent. He, therefore, selected from his own flock, and from the flocks of others, those sheep to breed from, which possessed, in the greatest degree, that perfection of form he was desirous to attain and perpetuate. By judiciously crossing them, and selecting the most perfect of their progeny, he at length succeeded in forming the breed, which has been distinguished by the name of the New-Leicester, or Dishley breed; and having attained his object, he carefully guarded against any future intermixtures with other breeds. This breed exceeds all others in its propensity to fatten; and by crossing by rams with this breed, a very considerable portion of the long-woolled sheep in England have been greatly improved in this respect.

"The peculiar characters of these sheep have been well described by Mr. Culley, an eminent grazer in Northumberland, who introduced the breed into that part of England. "The Dishley breed are particularly distinguished from other long-woolled breeds, by their fine lively eyes, clean heads, straight, broad, flat backs, round (barrel-like) bodies, very fine small bones, thin pelts, and inclination to fat at an early age. The last property is probably owing to the before specified qualities, which, from observation and experience, there is reason to believe, extends generally through every species of domestic quadrupeds. The Dishley breed is not only peculiar for its mutton being fat, but also for the fineness of the grain: the flavour is superior to the mutton of most other long-woolled breeds. The weight of the carcass may be stated in general; ewes, three or four years old, from 18 to 26 lbs. per quarter; wethers, two years old, from 20 to 30 lbs."

All who saw the sheep which form the subject of this article, will at once recognize in them the Dishley breed, here spoken of.

We shall not here discuss the question—what extent should the *raising of sheep* be made an object of attention by the people of the United States? Col. Taylor, of Virginia, for whose opinion, in most things, we have the highest respect, has come to the conclusion, that they "require and consume far more food, in proportion to their size, than any other stock; that they are more liable to disease and death, and that they cannot be made a profitable stock, throughout the whole extent of the warm, dry climate of the United States, without banishing tillage from vast tracts of country." For the present, we must postpone an examination of these more comprehensive views of the subject, observing only in the mean time, that Col. Taylor's denunciations of this peaceful race of animals, almost every part of which subserves, in some way, the comforts and conveniences of life, are not concurred in by some of our intelligent agricultural friends. There is one view of the subject, at least, in which all must agree, that as long as we raise any, every farmer of pride will study to adopt the best breed, and to rear them after the most skilful and advantageous manner. Whatever is done by a *provident farmer*, his first object will be to have it well done.

To return to Mr. Barney, that the readers may appreciate the causes of his eminent success in fattening live stock, it is necessary now to mention, that his farm has been *made by banking out* the river Delaware. The dry marshes thus formed, put forth, early in the year, a spontaneous and inexhaustible supply of country clover and other grass, peculiarly grateful to the taste, and congenial to the growth of cattle and sheep; and, what seems extraordinary, they are said to be entirely exempt from that intolerable annoyance, the *mosquito*, so common on the low, marshy grounds, on tide-water.

His establishment consists of 420 acres, 150 of them in wood, and 10 in upland pasture. He keeps, commonly, 200 head of cattle and 100 of sheep; the former average from 700 to 1000 lbs. each, and sell to the butchers, commencing in July and ending in December, for from 60 to 90 dollars per head, reserving a small number for the stall. His sheep he sells, as he informed us, for \$20 a head—breeders, ewes, from 25 to 50 dollars; bucks, from 50 to 100 dollars. His usual force for the management of all these, is *two men and a boy*. The heaviest of these sheep weighed 144 lbs. of neat meat, which at 37½ cts. per lb. amounted to 54 dollars.

We shall now state the weight and cost of the whole number, and leave the reader to compare the weight with the usual weight of English sheep, given us by Mr. Culley, in the table below:

17 Bakewell sheep cost	2	\$25 each	{	\$ 50
the butcher	15	20 do.	}	300
				\$350

Aggregate weight 1960

Each sheep	115½
Average per quarter	21¾
Aggregate of rough fat 365 lbs.	
or 21½ lbs. each.	

NAMES OF BREEDS.	Quality of wool. (f) fine, (c) coarse, (s) superfine.	Weight of fleece.	Wethers per quar.	Age when killed.
		lbs.	lbs.	yrs.
1 Teeswater	Long wool	9	30	2
2 Lincoln	Long wool	11	25	2
3 New Leicester	Long wool (f)	8	22	2
4 Cotswold	Long wool (f)	9	24	2
5 Romney Marsh	Long wool (f)	8	22	2
6 Dartmoor or Bampton	Long wool (f)	2	25	3
7 Exmoor	Long wool (c)	2	16	3
8 Heath	Long wool (c)	3	15	3
9 Hereford, Ryeland	Short wool (f)	3	14	2
10 Morf, Shropshire	Short wool (f)	2	12	3
11 Dorset	Short wool (f)	3	18	2
12 Wilts	Short (mid.)	3	20	3
13 Berks	Long wool	7	18	2
14 South Downs	Long wool	2	18	2
15 Norfolk	Long wool	2	18	3
16 Herdwick	Long wool	2	10	4
17 Cheviot	Long wool	3	16	4
18 Dun-faced	Long wool	1	7	4
19 Shetland	Fine cottony	2	8	4
20 Spanish	Short wool (s)	3	14	2
21 Ditto cross	Ditto fine	3	16	2

FRUIT TREES.

An esteemed friend and a shrewd observer of things, has handed us the following curious article, pointing out a method of forcing every fruit tree to blossom and to bear fruit, which we have much pleasure in offering to the consideration of our readers.

It comes very opportunely, for the trial of the experiment, and we earnestly invite our agricultural friends to test the truth of the matter, by *actual trial*. It is easily made, and we shall be happy to know and publish the result.

The useful sciences have made great progress in Germany within the last twenty years, and we are inclined to think, that the American public would be greatly benefited by more frequent translations from serious and philosophical German works, than from the numerous trivial publications imported with so much avidity from other countries. Amongst our friends, there are some, who, we feel well satisfied, would greatly promote the interests of the "American Farmer" by communicating translations of essays on different branches of domestic economy; and, as the conductors of a work devoted to that object, we shall feel ourselves under great obligation, to any gentleman who will kindly favour us with such communications.—*Ed. Am. Farmer.*

"The following easy, simple and infallible method of forcing every fruit tree to blossom and to bear fruit, has been translated from the German of the Rev. George Charles Lewis Hemphel, (Secretary to the Promological Society of Altenburgh, in Saxony) by George Henry Nothden, LL. D. F. K. S. &c. "In my early years, I saw my father, who was fond of Pomology, and skilled in the science, cutting a ring on several branches of trees, which already were in blossom, for the purpose of producing, by that means, larger fruit than usual. This was not his own invention, but as far as I can recollect, derived from a French journal. Thirty years ago, when I was a boy, I practised this operation, in imitation of him, and thereby obtained larger pears and plums. In repeating this operation of *ringing* the branches, which I did merely for the purpose of getting larger fruit, I observed that the branches so operated upon, always bore the next year.

By this reiterated appearance, I was led to the idea, that perhaps this mode of ringing the bark, might be a means of compelling every unproductive branch to yield fruit. With this view I cut rings upon a considerable number of branches, which as yet showed no blossom; and found, by repeating the experiment, the truth of my supposition indisputably confirmed by experience. The application of this experiment, whereby upon a bough or branch, fruit may artificially be produced, is very simple and easy. With a sharp knife, ring the limb which you mean to force to bear, and not far from the place where it is connected with the trunk, or, if it be a small branch or shoots, near to where it is joined to the larger bough, the cut is to go round the branch, or to encircle it, and to penetrate to the wood. A *quarter of an inch* from this cut you make a second cut, like the first, round the branch, so that, by both encircling the branch, you have marked a ring upon the branch, a quarter of an inch broad, between the two cuts.

The bark between the two cuts you take away clean with a knife, down to the wood, removing even the fine inner bark, which immediately lies upon the wood; so that no connexion whatever remains between the two parts of the bark, but the bare and naked wood appears white and smooth. But this bark-ring, which is to compel the tree to bear, must be made at the right time, that is, when in all nature, the buds are strongly swelling or are breaking out into blossom. In the same year, a callus is formed at the edges of the ring, on both sides, and the connexion of the bark, that had been interrupted, is restored again without any detriment to the tree or the branch operated upon, in which the artificial wound soon again grows over. By this simple artificial means, of forcing every fruit tree, with certainty, to bear, you obtain the following important advantages: 1. You may compel every young tree of which you do not know the sort, to show its fruit, and decide sooner whether, being of a good quality, it may remain in its first state, or require to be grafted. 2. You may thereby, with certainty, get fruit of every good sort of which you wish to see the produce in the next year. 3. This method may probably serve to increase considerably, the quantity of fruit in the country. The branches so operated upon are hung full of fruit, while the others, that are not ringed, often have nothing, or very little on them. This effect is easy to be explained from the theory of the motion of the sap. For, when the sap moves slowly in a tree, it produces fruit buds, which is the case in old trees; when it moves vigorously, the tree forms wood, or runs into shoots, as happens with young trees. Though I arrived at this discovery myself in consequence of trying the same process with a different view, namely, to increase only the size of the fruit, but not to force barren branches, that were only furnished with leaf buds, to bear, this latter application being before quite unknown to me: I will, on that account, by no means give myself out for the first inventor of this operation; but I was ignorant of the effects to be produced by this method, and only discovered them by repeated experiments of my own, which I made for the promotion of Pomology. Frequent experience of the completest success has confirmed the truth of my observations. Nor do I think that this method is generally known; at least, to all those to whom I showed the experiment, the effect produced appeared new and surprising."

A gentleman, says a late Journal of the Times, who has devoted much of his time to agricultural pursuits, assured us that he had made frequent experiments on his apple orchard, and he has never known the experiment which we shall now state, to fail in a single instance.

His orchard contains a great variety of apple trees bearing very sweet, some very acid fruit, and others partaking of both these properties. He declares, that in the vernal season, when his trees were in full blossoms, he has frequently taken some blossoms from one tree, for example, where the fruit is very sweet, and deposited it on the flowers of a particular branch of another tree, whose fruit is extremely acid. The apples of that particular branch will, he assures us, combine these two properties for that season; and

by this simple process, he asserts, that he can easily provide himself, for that season, with apples perfectly to his taste,—which he considers a much more expeditious, and equally as certain a process, as that of grafting. We mention this fact for the information of those of our country friends who may be disposed hereafter to try the experiment.

MISCELLANY.

FOR THE AMERICAN FARMER.

North Point Line of Heroes:

A FRAGMENT.

SEE'ST thou yonder line, in well form'd phalanx,
Breasted to the storm of menac'd conflict,
Whose burnish'd arms, the sun's meridian blaze
Reflects, in glist'ning terror on the foe?
—There to the right, behold two patriot sires,
Whose aged locks now bear the hoary marks
Of more than sixty years—determin'd here,
To stand or fall! Their sacred homes
And civic state to guard from hostile ire!
Men, whom old Sparta's reverence for age,
Had deem'd two arm'd messengers from Heav'n.

But hark! the signal sounds! the cannon's
roar
Proclaims th' approach of those fierce legions,
Whose arms were lately drench'd in Gallie
blood,
From where old Calpe frowns o'er the Atlantic
wave

To the Pyrenean hills, or rapid Rhone.
And now, lo!—onward comes the hostile march,
Bold, fierce and furious—our city to consign
To conflagration dire!—Infernal aim!
Still reeking from the flaming desolation
Of the Nation's Capitol—Barbarian deed!
At which e'en savage Goths had felt a blush.

Now, fierce is pour'd the deadly leaden shower,
While still, in stern defiance stands unmov'd,
Nor idly stands—our band of youthful heroes—
For, on the foe, with well directed aim,
They pour an equal flood of missile death—
While their proud chief, in daring valour, bold,
And flush'd with triumph from Iberia's plains,
Now bites the dust! when all his host appall'd
With solemn pause—shrink from the contest
dire.

Meanwhile our little band of brave compatriots,
In strict obedience to rever'd command—
Prepar'd alike, or for retreat, or halt—undaunted
Their post maintain—tho' not without some loss,
To wring a parent's or a consort's heart!

Our gallant NESTORS, too, who, side by side,
Had borne the brunt of all the fiercest onset,
Were now, alas! to part their allied arms.
The one, a random bullet had brought low;
His aged form laid prostrate on the dust—
While in the other's arm—he's borne—as NISUS
His *Euryalus* of old, did bear—and thus,
His bleeding friend, he plac'd behind an oak,
Poor, scanty shelter from the battle's rage.
Yet, he to life, and all for whom he liv'd,
And fought, and bled, has since been well re-
stor'd.

Not so, his old and tried compeer in arms;
Who, though without a wound, he glory gain'd
And the *free* soldier's choicest, only need,

A conscious sense of duty well discharg'd.
Yet still a wayward world, and all its ills—
Ills, not so few in number, as are those
By whom they're felt, or feeling would allay,
Still mark his lengthen'd passage to the grave.

Behold, then, BALTIMORE! your hoary
veteran,
Who fill'd his portion of the North Point line,
Of that too small, but yet immortal phalanx,
That plead your cause abreast of British bayo-
nets;
Shorn of the little boon, your gratitude conferred.
What! shorn by whom? Alas! I blush to write—
Confer'd for what? To cheer an old man's sor-
rows?
To rear or cheer the Orphans round his board?
No! No boon it was—but a mere pittance—
By service; toil, and labour, dearly bought
Beneath a scorching sun—through streets and
lanes,
And nuisances, at risk of health and life—
With daily zeal and faithfulness discharg'd.
Why, then, again I say,—yea, loudly say—
Why, then, bereave the hoary headed vet'ran,
Of North Point mem'ry, of such an office? *
And, thus, wrest from the aged hero's hand
The only support of declining years?
Forbid it shame! Forbid it all that virtue
Should suggest, or gratitude inspire—
That any deed, so foul, should stigmatize
Our city—should e'er be charg'd to those
Who merit, worth, or valour, highly prize—
Whose boast is to remunerate the brave—
To rear the monumental pile—to teach
The breathing canvass to portray their forms—
And lips of infancy to lisp their names,
Who, for their country, bravely bled, or died.

* Office of City Commissioner.

FOR THE AMERICAN FARMER.

A BRIEF COMMENT

On an old proverb and a recent event, for the
instruction and benefit of the people of Ame-
rica.

"Exemplo plus quam ratione vivimus."

Whether to nations or individuals, examples
are of the greatest importance, illustrating the
good old proverb, "that example is better than
precept!"—Teach a young man the best pre-
cepts written either by Solomon, or Socrates, or
Franklin, yet, until he comes into society, he will
only be a novice in the ways of the world. Af-
ter all the volumes that have been published,
and they are innumerable, the best, as being the
most instructive is THE BOOK OF NATURE.—In
this respect, the people of America are most
happily circumstanced; they have not only all
the wise sayings and doings of the old world, but
they have also before them, the example and the
experience of both hemispheres.—If they sin,
they will sin with open eyes.—They are young
in practise, but they, amongst all the nations that
have heretofore either risen by virtue, or fallen
by vice, have the best opportunities of profiting
both by precept and example. Wo be to them,
if they neglect such golden opportunities.

The last London papers are filled with pane-
gyrics and anti-panegyrics, anecdotes and secret

histories of a royal personage who lately died in
England.—This lady was brought from a petty
German principality (not larger, and not half so
opulent as an English county) in order to sup-
port the church and state system, by producing
heirs to the imperial throne of Great Britain and
Ireland. This part of her duty she fulfilled with
a singular fecundity, having produced, "accord-
ing to law," twelve princes and princesses (be-
sides three others that died) all of whom are li-
berally provided for at the expense of John Bull,
who is said to be wonderfully fond of "royal pa-
geantry." If monarchy be the best of all possi-
ble governments, which the courtiers praise in
parliament, and the clergy eulogize in the pulpit,
all must agree in acknowledging, that it is a ve-
ry costly article, and that simple John pays dear-
ly for his whistle.

There are the establishment of the king, that
of the queen, and those of the royal progeny,
which every year take millions of money from
the hard earnings of a grievously taxed people,
to support the luxurious magnificence of those
branches of royalty, with all their courtiers and
officers, servants and sycophants, to the amount
of many thousands.—The eldest branch of this
royal family (whose conduct to his lawful wife
has made him a conspicuous character in the
fashionable world) in the expenses of his sumptu-
ous palaces, his voluptuous banquets, his costly
dishes and equipages, with other *et ceteras* not
fit to be mentioned, has expended more money
than would make a complete line of canals from
Boston to Savannah. With this glaring exam-
ple before our eyes, would it not be lamentable
if any party in this country, should betray an
anxious hankering after this church and state po-
licy!

It is indeed surprising, that a nation so justly
famed for wisdom and intellect—a nation, that
was once the bulwark of liberty in Europe, and
has produced so many illustrious characters
should patiently submit to such gross imposi-
tions. But England is now borne down by a cor-
rupt parliament, two thirds of whom feel an in-
terest in this ruinous system of policy.

The court papers are industrious in their
praises of the character of the late queen, and
even venture to extol her *generosity*.—This is a
virtue upon which they should have been as si-
lent as the grave; for it is well known, that the
old lady, in conjunction with her favourite Ger-
man companion, Madam Sahwellenburg, took
every means to acquire money, even to the sale
of the cast-off court dress. It was generally
believed, that, at her death, she would not have
amassed less than three millions sterling; but
only about three thousand pounds could be as-
certained—she had carefully conveyed her vast
fortune to her connexions in Germany. Thus it
is, that ever since the accession of the Hanove-
rian dynasty, the petty German principalities
have been enriched at the expense of England.

Amongst the number of Anecdotes lately pub-
lished, I shall only select two, as they relate to
the virtue, called the *generosity* of the deceased
lady.

A number of well meaning ladies and gentle-
men having set on foot a scheme for the support
of reduced females who had seen better days,
they humbly solicited her majesty to patronize
it, and she most graciously condescended to

comply with their request; but when the mana-
gers of the institution went about to obtain sub-
scriptions to defray the expenses of it, the queen
said "that she left the management of her pecu-
niary concerns entirely to the care of her faith-
ful subjects!"

At another time, the queen took it in her roy-
al head to show a mark of royal benevolence to
a lady whom she had formerly known at her
father's court; accordingly, she generously sent
her six pounds of Bohea tea, and a half of a Che-
shire cheese!

Her harsh conduct to the wife of the prince of
Wales, and the mother of that amiable princess
who lately died in child bed, can never be for-
gotten, whilst there is a spark of true generosity
existing in the world.

O. B.

From the Franklin (Phila.) Gazette.

STATEMENT

Of the Cotton Wool imported into Liverpool,
London, and Glasgow, from the 1st of Janua-
ry, to the 5th December, 1818.

U. STATES OF AMERICA, viz.	
South Carolina,	62,075 bags
Georgia,	71,931 do.
New Orleans,	50,342 bales
Other parts,	26,974 bags, &c.
	211,323

SOUTH AMERICA, viz.	
Demerara, Berbice, and	
Surinam,	24,892 bags, &c.
Pernambuco,	45,584 do.
Rio,	11,121 do.
Bahia,	38,854 do.
Maranham,	37,687 do.
Other parts, and Por- tugal	21,939 do.
	180,177
West India Islands,	15,805

EAST INDIES, viz.	
Bengal,	159,930 bales
Bombay,	46,114 do.
Isle of France,	1,162 do.
Other parts,	1,229 do.
	208,442

European Ports and Ireland, bags 7,955
The following statement exhibits the increase of
importation from the several parts of the
world during the last two years, into the port
of Liverpool:

	American	Brazil	West Indies, and Demerara, &c.
	Bags, &c.	Bags, &c.	Bags, &c.
1817	164,096	90,533	21,701
1818	179,094	132,718	21,802
East Indies, European and other Ports.			
	Bags.		
1817	18,967	3063	
1818	63,707		

The comparative qualities of these cottons,
may be, in some degree, estimated by the follow-
ing list of prices, at Liverpool, Dec. 1818.

Sea Island, fine, fr. 3s. 4d. to 3s. 9d. per lb.			
good	3	1	3 3
middling	2	9½	2 11
ordi & stained	1	8½	2 0
Upland Bowd	1	5	1 7½
New Orleans	1	6	1 8½
Bahia	1	8½	1 9½
Maranham	1	9	1 9½

Pernambuco	1	11	2	0
Cayenne	1	11	2	0
Demerara and Berbice	1	8	2	0
Surinam	1	10	2	0
Barbadoes	1	6½	1	8
Common W. India	1	5½	1	7
Bourbon		2	2	8
Bengal		7½	0	11
Surat		9	1	2½

The Duties on all these are—

From any place, in a British ship, 0l. 8s. 7d. per 100 lbs.	
From the U. S. in an Amer. ship,	8 7
From Portuguese colonies in Portuguese ships	8 7
From any other place, in foreign ships,	1 5 6

The following table is extracted from a work lately published in Paris, written by the Count De la Borde :

Extent of territory in France, 108,000,000 acres.	
Population.	
In agriculture,	17,500,000 persons.
Manufactures,	6,200,000
Indigent,	800,000
Various,	4,000,000
Total,	28,500,000

Annual agricultural produce	1,140,000,000
Manufactures	38,000,000
Permanent public revenues	30,000,000

The following table, in respect to England, is copied from the same author :

Extent of territory, 55,000,000 acres.	
Population.	
In agriculture	6,129,142 persons.
In manufactures	7,071,989
Indigent	1,548,400
Various	2,347,300
Total,	17,096,800

Annual agricultural product	1,225,000,000
Manufactures	115,000,000
Permanent public revenue	62,000,000

PUBLIC IMPROVEMENTS.

Jean Brune, the celebrated Venetian architect, who proposes to remove churches, houses, and every description of building, from one place to another, without separating the materials, is daily expected in London, where he is to exercise his wonderful skill in the improvement of some of our streets and public places. His first work will be to remove the monument from Fish-street Hill to St. George's Fields. He will then take London Bridge, and place it where Battersea Bridge now stands. Temple bar, by his exertions, will be transported to Kensington cross, where it is to stand as a toll-house.—The shop part of Exeter change to be removed to the Haymarket; the upper parts, beasts and all, are to be conveyed to Smithfield. This certainly will be found an excellent and much wanted improvement to the Strand. Some other plans are mentioned, but the parties have not yet agreed to the terms proposed by the ingenious Italian.—*Lon. pup.*

NEW JERSEY BANKS.

The following Statement, is copied from the Treasurer's account of Banking Capital in that state, and of the tax paid thereon to Government :

	Capitals.	Am. of Tax.
Newark Bank	\$300,000	\$1,500 00
Camden do.	500,000	3,000 10
Trenton do,	214,700	1,073 70
N. Brunswick do.	163,450	317 25
Cumberland do.	50,000	250 00
Newark State do.	200,000	1,000 00
Farmers' State do.	100,000	500 00
Trenton State do.	92,400	462 00
N. Brunswick do. do.	142,000	700 00
E. Town State do.	99,975	499 88
Morris State do.	100,000	500 00
Patterson State do.	120,000	600 00
Totals,	\$2,182,565	\$10,902 93

BALTIMORE :

FRIDAY, APRIL 1, 1819,

Late from South America.

*** The first movements of every people, in the act of throwing off an oppressive system of government, are always interesting to every friend of humanity—even though these movements be injudiciously directed. The present seems to be a critical period in the fate of Venezuela, as indicated by the letter of our friend, than whom, a more ardent votary of human liberty, never put pen to paper.

ANGUSTURA, February 16, 1819.

Yesterday was the commencement of an auspicious era for Venezuela, if the congress and the people have wisdom and integrity enough to improve the occasion. I shall briefly relate the civil concurrences, and leave you to judge for yourself.

Having received a courteous invitation from general Bolivar to attend at the solemn ceremony of installing the congress, in the palace of government, I was at the rendezvous at the appointed hour, and accompanied the general and other officers, to the capitol, where the members were drawn up in the passage in open ranks, facing inwards to receive him (the supreme chief.) They passed into the hall and took their seats—salutes being fired then, as well as at sun-rise, or rather, at the hour of sun-rise, for it was rainy and cloudy, and sol was invisible.

After a short pause, the supreme chief addressed the assembly, in an elaborate discourse on government, and upon the peculiar condition of Venezuela—taking a survey of free states, ancient and modern. His enunciation was clear and distinct; his action correct, but his voice somewhat feeble. The political institutions of the United States, he regarded as singularly fortunate in escaping so far the common ruin of free governments, and promising to be lasting, [which God grant!] This happy exemption was owing to the habits in which the North American people were nurtured and educated. They had been born in a free state. Little of this, he feared was applicable to Venezuela,

where different casts formed a compound, uniting the mingled blood of America, Spain, and Africa; and he submitted his plan of a proper constitution of government.* England seemed to afford finished models in the three forms or compartments of government; in the executive or monarchical part, as in the aristocracy and democracy. He strongly declaimed against a federal system for Venezuela, while complimenting the United States extravagantly. In short, the drift of his argument was, to recommend a permanent senate, for one thing; insisting on the policy and justice of rewarding the benefactors of their country (or the military officers) by seats in it—for them, and their heirs! The abominable chaos, under the name of laws which are so fruitful of mischiefs, impunity, vexation, and crime, he described very properly.—He also urged the necessity of freedom of religion, and the press, and of encouraging education.

I do not pretend to great exactness or particularity; but so far as I give a sketch, I am sufficiently accurate, I think. As soon as possible I shall obtain a copy of this document.†

As he concluded, with *viva al congreso!* another salute was fired, drums beat, and bells were tolled.

Dr. F. A. Zea, was then called to the chair; gen. B. however, officiated to administer the oath of office to the members. Mr. Zea addressed the assembly, from the chair, in a pertinent and elegant speech, *extempore*. He adverted to the history of other states, in the formation of their governments, comparing, or contrasting their situation with that of Venezuela. He passed a flattering panegyric on the magnanimity and disinterestedness of gen. Bolivar, justly extolling his more recent act, as an example to every patriot, &c. &c. or soldier.

Gen. Bolivar rose after the president of congress (ad interim) had finished his remarks, to reply on behalf of the officers more particularly to the observations made. He renounced for himself, then and for ever, any and every civil trust. When peace should be established, he would become a private citizen, and never be any thing more.

When he retired, *viva el general Bolivar!* resounded through the Assembly.

The concluding declaration gave surprise to every one whom I heard make mention of the subject. But, whatever his past conduct may have been, and there are various opinions concerning it, his last political act is unequivocal. He must be disinterested, since he precludes himself from filling any civil station. This, I say, caused much wonder and conversation. Let the historian of this revolution weigh his merits and failings impartially, and award him that quantum of censure or applause which is his due. For myself, though previous information had strongly biased me against general Bolivar, as a

* A manœuvre which detracts much from the merit of subsequent renunciations. All this he ought to have left to the constituent congress. His proposition, however, is offered respectfully (in terms) as to the right of every citizen.

† The Editor has received one, but it is too long for this paper,

man of inordinate ambition and sinister management, * I had rather praise than blame any man, if truth permit. I am, at any rate, so pleased with events, that I dismiss censorious inquiries into causes.

All the proceedings of congress were marked by decorum. To-day, during a few minutes that I attended their debates, I perceived their extreme want of rules for conducting the business of the house.† They adopted a proposition, or resolution, investing general Bolivar with executive powers of president *pro tem.* and appointing him generalissimo of the army. A committee is named to draw up rules of debate, &c. another to consider and report on Bolivar's project of a constitution for Venezuela.

Accounts from the armies leave room for doubt and apprehension, as I am sorry to state. The enemy, whose policy is to defeat Paez before he is re-enforced, have crossed the Apura and Aranca. They have received re-enforcements to a considerable extent, if we may rely on their statements. The boldness of Morillo's movements, is the strongest evidence of it. Should Paez be defeated, (which Jove forbid!) the country has yet to pass through a second ordeal.—Things are at a crisis. However, near 500 men have arrived from England, and as many more are expected daily, besides another expedition of 1500 or 2000 men from the same quarter; they cannot come too soon—but no temporary reverse can prevent the independence of the country, sooner or later. I therefore hope the government of the United States will manifest their good disposition without delay. We can show our friendship without going to war with Spain, and we ought to befriend the congress and patriots of Venezuela.

February 19.

News from the army, of the 7th inst. states, that general Paez had surprised and defeated a corps of 600 of the enemy's cavalry, killing 400 of them. One army or the other, it would seem must be destroyed. The enemy cannot support himself in his present position, near the Aranca (in crossing which he lost 500 men;) Paez's cavalry hovering round him, have driven off the cattle in front and set fire to the grassy plains in his rear. His (P's) infantry, and a corps of artillery, are posted on the island before Urbanna formed by two branches of the Aranca, disemboing their waters into the Orinoco, with the latter, of course. It is the enemy's best play to attack Paez before he is re-enforced; and it is the order of Bolivar to P. not to come to a general action until he be re-enforced, but to take advantage of circumstances.

February 21.

Accounts are received from Trinidad, of four

* Some people are not disposed to render him any homage, or give him any credit for the measure; averring, that necessity alone, compelled him to it. I do not argue the point: I cannot swear to motives, for they are hidden; but acts that please us, we are not inclined to ascribe to unworthy intents.

† Pity but they had Mr. Jefferson's manual, in Spanish.

transport ships, belonging to col. English's expedition, having touched there and sailed for Margaritta, with 7 or 800 men. Should these re-enforcements be wanted here, this movement is unfortunate, as these ships never can beat up to windward again. Therefore, I suppose, they will be ordered to occupy Barcelona, or some other point on the coast, and operate against the most vulnerable parts of the enemy's territory. If Paez but avoids a general action for a while, the Spanish army must be destroyed.

Port of Spain (Trinidad) March 12, 1819.

— I arrived here this forenoon, from Angostura, where prospects are encouraging. Certainly the patriots must triumph this campaign. English re-enforcements, (chiefly Irish however) will turn the scale unalterably.

Roscio, Pallacios, Cadiz, &c. are struggling for the establishment of a free constitution. I know not what success they may have. If they make a good beginning, they do enough for the present. As the people advance in information, they will improve their fabric, *poco a poco*, and that is all we ought in reason to expect.

I hope, under all circumstances, our government will act liberally; depend upon it our policy consists in so acting.

Ere this reaches you, though I send it via St. Thomas, for speed, you will have heard of Paez's success over Morillo. A descent from Margaritta, on the coast, and a junction of forces under good officers, (amongst them is col. Needham, newly re-appointed,) will complete the reign of the Godos in Venez., by May day, at farthest.—I hope.

Saint Thomas, March 20, 1819.

By a letter I received this morning, dated Margaritta, 16th, I am advised, that the progress of the royal army under Morillo, had been checked by gen. Paez, having already sustained a loss of 600 men. They were retiring from the Apura, and were closely pursued, so that there is every reason to expect, that Paez, will give a good account of them. The fleet had sailed from Angostura a few days previous to the date of my letter, in pursuit of a Spanish squadron, which has been in that neighbourhood. Admiral Brion had resumed the command, a circumstance of much importance to the success of their operations, as Jolie, during the time he commanded, had conducted himself in such a manner as not only to render himself, but it is to be feared, the cause in which he was engaged, unpopular.

The Buenos Ayrean brig of war Irresistable, captain Daniels, had arrived at Margaritta, with several of his prizes, amongst them his Catholic Majesty's late brig Nariade, of 18 guns, and 140 men, which he had captured after an action of 14 minutes.

LATEST FROM ENGLAND.

Our latest London dates are to the 24th Feb. received by the arrival of the Ann Maria, at N. York. The substance of the intelligence received by her, (though not very interesting) we have thrown in a condensed form for our readers. A report, for stock-jobbing purposes, was got up in

London on the 22d Feb. of the death of the French king.—English ports were shut against the importation of foreign wheat, and open for other descriptions of grain. Grain of all kinds admitted free from British America.—American Bank Shares, on 23d Feb. 120 to 21; new six per cent. 99 a 100; three per cent. 64 1-2 a 65, with dividend from January.—The late ex-king of Spain died a short time since at Naples. The 100 millions indemnities due to the allies from France, had been definitely arranged; the first instalment of one third is to be paid 1st June, 1820.—M. Beauregard, his former physician is to go out to Bonaparte in that capacity, sanctioned by the allies.—An association has been formed at Treves, for the establishment of a settlement in the United States. Great numbers are ready to embark.—France is engaged in establishing a colony in Senegal, for the cultivation of cotton, indigo, coffee and sugar. A new Swedish tariff of duties has been drawn up, and no goods are to be prohibited exportation, but some few that might cause a scarcity of raw materials to the country. Foreign and Swedish vessels are put upon similar footing, as it regards exports except that the former are to pay 10 and the latter 5 per cent. of the value; but all goods the duties of which are only 12 pence per the \$100, may be shipped in foreign vessels, without augmentation of duty. Mr. Adams' letter to the Spanish minister was republished in London, on the 27th January.—Carline, who kept a bookshop in Fleet-Street, London, has been sent to Newgate, for selling Paine's Age of Reason; and was afterwards bailed.—John Moore, a grocer, has been fined £140, for selling leaves fabricated in imitation of tea.—The Marquis de la Fayette, is a member of the French Chamber of Deputies. At the sitting of the 14th, he delivered a speech relative to the national guard of Auxerre.—Lord Castlereagh has submitted to the House of Commons, a series of highly interesting and important documents, connected with the efforts of England to procure the abolition of the slave trade.—A general depression has occurred in the prices of American produce in London and Liverpool.—The Spanish Royal order, subjecting to the pain of death all foreigners, found with arms in their hands, aiding the insurgents, it is said, had called forth a representation from the European ambassadors at that court, expressing the horror they were inspired with at its sanguinary character.

Harrowing small Grain in the Spring.

We have not room now, for an essay, if the subject required it, but we cannot permit another week to pass, without recommending the Farmer to pass the harrow over his fields of small grain. We are confident that it must have a fine effect in giving it an early start, and enabling it to outgrow most of its enemies.—The reason is plain, and obvious.—It acts like a fresh ploughing of corn or tobacco, just before a good rain—the surface of the ground is softened about the stalk, gives it room to expand, and numerous bugs and insects are routed, covered over, and destroyed.

At all events, it is easy to make the trial. Let a few breadths be harrowed, the same way the grain was ploughed in: numerous plants will be torn up, and the operation will, apparently, in-

nance universal destruction; but it will be found, that what remains, will spread and thrive much better, and more than make up for the little destroyed.

Perhaps, for this operation, the common old wooden tooth harrow, with blunt teeth, would answer as well, if not better, than any other; and it is well if it can be made to answer *any purpose well*. At all events the harrowing is strenuously recommended by some of the best Pennsylvania farmers: therefore we repeat, *make the trial on a small scale, and then you will know another year.*

PRICES OF COUNTRY PRODUCE,

According to actual Sales, within the last Week.

We wish our subscribers to understand, that this is a duty to them, in the performance of which we take special care. When we state prices of articles in foreign markets, we get them from an actual inspection of letters received by gentlemen on whom every reliance may be placed. The prices in our own market are, gathered from buyers and sellers. We take the pains to know, the quality of the article, the place where, and the person by whom it was grown; the seller and buyer, and whether on credit or for cash. From these data we make up our statement, and the farmer may receive it with implicit confidence.

Tobacco.—The last week has been one of great vicissitude to this article. It has not vibrated like the pendulum of a clock, going sometimes up and then down—its motion, we are sorry to say, has been uniformly downward; and from the great scarcity of money, we fear, it will be still lower. There have been no sales within the last week, of lower Patuxent, but it is offered at \$9 and \$11. Rappahannock sold yesterday, crop tobacco, for \$9 50. Fine yellow tobacco, in wagons from the upper country, sold three days since, for \$16 25 and \$18 25, and has since fallen \$2 or \$3 per cwt.

Corn, per Chestertown packet, sold yesterday for

Yellow	\$ 57
White	56
Red Wheat	1 40
On Wednesday, a parcel of col. Lloyd's white wheat, cleaned by machinery, sold for	1 60
Yesterday, white wheat, grown by Cooke Tilghman, Esq. sold for (the present price)	1 50
Rye	80 to 85
Oats	45 to 50
Corn	55 to 57

RAVAGES OF THE PLAGUE.

A letter from our Consul at Tunis, we suspect, received in Boston, gives a most lamentable picture of the condition of that people, from the prevalence of the plague. It is thought favourable to the public health, when the number of deaths does not exceed 200 a day—and it frequently amounts to from 300 to 350! It commenced in October last, and it is estimated, that the Bey loses about 2000 subjects daily. The population of Tunis, alone, has suffered already a diminution of 30,000, by death and emigration;

probably more than half by the pestilence. "You may form, says the writer, some idea of the ravages of the malady, and of the exactness with which justice is here administered, in some respects, from the remarkable fact, that a poor cobbler was the other day summoned from his stall, to take possession, as the inheritor, of 12 different estates at once! It would seem that they invoke their own curse. The language of the Koran is, "Send, O Allah, send death to the infidels."

AMUSEMENT.

LACONIC EPISTLES.

When Lord Euston ran away with one of the maids of honour, he promised the Duke of Dorset, who helped her into the post chaise, to write him from the first stage. The returning stage accordingly brought the Duke the following letter:

"I am the happiest dog alive.

Yours, Euston."

At Gretna-Green, Euston received this answer from the Duke:

"Every dog has his day.

Yours, Dorset."

A traveller was asked if he knew what was the best thing in the world? *Liberty*, answered he. The most pleasant? *Gain*. The least known? *Good Fortune*. The worst? *Death*. Who is the most happy man in the world? *The learned man who has riches and knows the use of them*. The most unfortunate? *The poor old man*. The most importunate? *The hard-hearted creditor*. The most dangerous? *The ignorant physician*. The most worthy of compassion? *The liar, who is not believed when he speaks the truth*.

COLD PEOPLE.

An Italian, on his return from Poland, said, that the people of that country were as white as their snows; but that they were colder than they were white; and that frequently, from their conversation, he caught a cold.

THUNDER POWDER.

Take separately three parts of good dry salt-petre, two parts of dry salt of tartar, and pound them well together in a mortar, then add thereto one part or rather more of flour of brimstone, and take care to mix the whole perfectly together, put this composition into a bottle with a glass stopper for use. Put about two drachms of this mixture in an iron spoon, over a moderate fire, but not in the flame: in a short time it will melt and go off with an explosion like thunder on a loaded cannon.

Effect of hot Water on Flowers.—By the following process, the lovers of flowers will be enabled to prolong, for a day, the enjoyment of their short-lived beauty.

Most flowers begin to droop and fade after being kept during 24 hours in water: a few may be revived by substituting fresh water; but all (the most fugacious, such as the poppy, and perhaps one or two others, excepted) may be com-

pletely restored by the use of *hot* water. For this purpose, place the flowers in scalding water, deep enough to cover about one third of the length of the stem; by the time the water has become cold, the flowers will have become erect and fresh; then cut off the codled ends of the stems, and put them into cold water.

District of Maryland, to wit.

BE IT REMEMBERED, That on this nineteenth day of March, in the forty-third year of (SEAL) the Independence of the United States of America, Joseph P. Casey, of the said District, hath deposited in this office the title of a book, the right whereof he claims as Author, in the words following, to wit:

"The Farmers and Gardeners' Hive, showing the expense and profit attending the cultivation of three hundred acres of land, and so on in proportion for any other quantity; and the work necessary to be done on a Farm and in a Garden, for every month in the year. Also, a Treatise on the cultivation of the Peach. To which is added, a number of Recipes, to protect all sorts of Fruit trees, Vegetables, &c. from all sorts of diseases, insects, electricity; and to ensure an abundant crop of Fruit. For all states in the Union."

In conformity to an act of the Congress of the United States, entitled "an act for the encouragement of learning, by securing the copies of maps, charts and books, to the authors and proprietors of such copies, during the times therein mentioned," and also to the act, entitled "an act, supplementary to the act, entitled 'an act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies during the times therein mentioned, and extending the benefits thereof to the arts of designing, engraving, and etching, historical and other prints.'"

Philip Moore,

Clerk of the District of Maryland.

DOMESTIC GOODS.

THE ATHENIAN SOCIETY,

No. 80,

BALTIMORE STREET,

IN addition to their extensive stock of Cotton and Woollen Goods, have just received fresh consignments of the best American Cloths, Cassimeres and Satinets, in a great variety of colours and mixtures.

They have a constant supply of Cotton Yarn and Threads, Oil and Floor Cloths, Ingrain, and Stair and Entry Carpeting, Hats, Combs, Umbrellas, Parasols, Brushes, and numerous useful articles of home manufactures, by wholesale and retail, on inviting terms.

Merino Wool,

Purchased for cash and taken in exchange for goods at cash prices.

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,

BALTIMORE,

AT FOUR DOLLARS PER ANNUM,

PAYABLE IN ADVANCE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, APRIL 16, 1819.

NUM. 3.

AGRICULTURE.

The RUTA BAGA or SWEDISH TURNIP.

FROM COBBETT'S YEAR'S RESIDENCE.

(Continued from No. 2, page 10.)

TRANSPLANTING.

This is a third mode of cultivating the RUTA BAGA; and, in certain cases, far preferable to either of the two others. My large crops at Botley were from roots transplanted. I resorted to the mode in order to ensure a crop in spite of the Fly; but, I am of opinion, that it is, in all cases, the best mode, provided hands can be obtained in sufficient number, just for a few days, or weeks, as the quantity may be, when the lands and the plants are ready.

Much light is thrown on matters of this sort by describing what one has done one's-self relating to them. This is practice at once; or, at least, it comes much nearer to it than any instructions possibly can.

It was accident that led me to the practice. In the summer, of 1812, I had a piece of Ruta Baga in the middle of a field, or rather, the piece occupied a part of the field, having a crop of carrots on the one side and a crop of mangel wurtzle on the other side. On the 20th July the Turnips, or rather those of them which had escaped the Fly, began to grow pretty well. They had been sown in drills; and I was anxious to fill up the spaces, which had been occasioned by the ravages of the Fly. I, therefore, took the supernumerary plants, which I found in the unattacked places, and filled up the rows by transplantation, which I did also in two other fields.

The Turnips, thus transplanted, grew, and in fact, were pretty good; but, they were very far inferior to those which had retained their original places. But, it happened, that on one side of the above-mentioned piece of turnips, there was a vacant space of about a yard in breadth. When the ploughman had finished ploughing between the rows of turnips, I made him plough up that spare ground very deep, and upon it I made my gardener go and plant two rows of turnips. These became the largest and fineness of the whole piece, though transplanted two days later than those which had been transplanted in the rows throughout the piece. The cause of this remarkable difference, I at once, saw, was, that these had been put into newly ploughed ground; for though I had not read much of TULL at the time here referred to, I knew, from the experience of my whole life, that seeds as well as plants ought always to go into ground as recently moved as possible; because at every moving of the earth, and

particularly at every turning of it, a new process of fermentation takes place, fresh exhalations arise, and a supply of the food of plants is thus prepared for the newly arrived guests. Mr. CURWEN, the Member of Parliament, though a poor thing as to public matters, has published not a bad book on agriculture. It is not bad, because it contains many authentic accounts of experiments made by himself: though I never can think of his book without thinking, at the same time, of the gross and scandalous plagiarisms, which he has committed upon TULL. Without mentioning particulars, the "Honourable Member" will, I am sure, know what I mean, if this page should ever have the honour to fall under his eye; and he will, I hope, repent, and give proof of his repentance, by a restoration of his property to the right owner.

However, Mr. CURWEN, in his book, gives an account of the wonderful effects of moving the ground between plants in rows; and he tells us of an experiment, which he made, and which proved, that from ground just ploughed, in a very dry time an exhalation of many tons weight, per acre took place during the first twenty-four hours; that in the course of about a week, the exhalation ceased; and that during the whole period, the ground, though in the same field, which had not been ploughed when the other ground was, exhaled not an ounce! When I read this in Mr. CURWEN's book, which was before I had read TULL, I called to mind, that, having once dug the ground between some rows of part of a plot of cabbages in my garden, in order to plant some late peas, I perceived (it was in a dry time) the cabbages, the next morning, in the part recently dug, with large drops of dew hanging on the edges of the leaves, and in the other, or undug part of the plot, no drops at all. I had forgotten the fact 'till I read Mr. CURWEN; and I never knew the cause 'till I read the real Father of English Husbandry.

From this digression I return to the history of my English transplanting. I saw, at once, that the only way to ensure a crop of turnips, was by transplantation. The next year, therefore, I prepared a field of five acres and another of twelve. I made ridges, in the manner described for sowing; and, on the 7th of June, in the first field, on the 20th of July, in the second field, I planted, my plants. I ascertained to an exactness, that there were thirty three tons to an acre, throughout the whole seventeen acres. After this, I never used any other method, I never saw above half as great a crop in any other person's land; and, though we read of much greater in agricultural prize reports, they must have been of the extent of a single acre, or something in that way. In my usual order, the ridges four

feet asunder, and the plants a foot asunder on the ridge, there are ten thousand, eight hundred and thirty turnips on the acre of ground, and therefore, for an acre to weigh thirty-three tons, each turnip, must weigh, very nearly seven pounds. After the time here spoken of, I had an acre or two at the end of a large field, transplanted on the 13th of July, which probably weighed fifty tons an acre. I delayed to have them weighed 'till a fire happened in some of my farm buildings, which produced a further delay, and so the thing was not done at all; but, I weighed one wagon load, the turnips of which averaged eleven pounds each; and, several weighed fourteen pounds each. My very largest, upon Long Island weighed twelve pounds and a half. In all these cases, as well here as in England, the produce was from transplanted plants; though, at Hyde Park, I have many turnips of more than ten pounds weight each from sown plants, some of which on account of the great perfection in their qualities, I have selected, and am now planting out, for seed.

I will now give a full account of my transplanting at Hyde Park. In a part of the ground, which was put into ridges and sown, I scattered the seed along very thinly upon the top of the ridge. But, however thinly you may attempt to scatter such small seeds, there will always be too many plants, if the tillage be good and the seed good also. I suffered these plants to stand as they came up: and they stood much too long, on account of my want of hands, or, rather, my want of time to attend to give my directions in the transplanting; and, indeed, my example too; for I met not with a man who knew how to fix a plant in the ground; and strange as it may appear, more than half the bulk of crop depends on a little, trifling, contemptible twist of the setting stick, or dibble; a thing very well known to all gardeners in the case of cabbages, and about which, therefore, I will give, by and by, very plain instructions.

Thus puzzled, and not being able to spare time to do the job myself, I was one day looking at my poor plants, which were daily suffering for want of removal, and was thinking how glad I should be of one of the Churchers at Botley, who, I thought to myself, would soon clap me out my turnip patch. At this very time, and into the field itself, came a cousin of one of these Churchers, who had lately arrived from England! It was very strange; but literally the fact.

To work the Churcher and I went, and, with the aid of persons to pull up the plants and bring them to us, we planted out about two acres, in the mornings and evenings of six days; for the weather was too hot for us to keep out after breakfast, until about two hours before sunset.

There was a friend staying with me, who helped us plant, and who did, indeed, as much of the work as Churcher or I.

The time when this was done, was from the 21st of August, one Sunday and one day of no planting, having intermitted. Every body knows that this is the very *hottest* season of the year; and, as it happened, this was, last summer, the *very driest* also. The weather had been hot and dry from the *tenth of August*; and so it continued to the *12th of September*. Any gentleman who has kept a journal of last year, upon Long Island, will know this to be correct. Who would have thought to see these plants thrive? Who would have thought to see them *live*? The next day after being planted, their leaves crumbled between our fingers like the old leaves of trees. In two days there was no more appearance of a crop upon the ground, than there was of a crop on the turnpike road. But on the 2d of September, as I have it in my memorandum book, the plants *began to show life*; and, before the rain came, on the 12th, the piece began to have an air, and, indeed, to grow and to promise a good crop.

I will speak of the *bulk* of this crop by and by, but, I must here mention another transplantation that I made in the latter end of *July*. A plot of ground, occupied by one of my earliest sowings, had the turnips standing on it in rows at eighteen inches asunder, and at a foot asunder in the rows. Towards the middle of *July* I found, that one half of the rows must be taken away, or that the whole would be of little value. Having pulled up the plants, I intended to *transplant* them (as they say of bishops) from the garden to the field: but, I had no ground ready. However, I did not like to throw away these plants, which had already bulbs as large as hen's eggs. They were carried into the cellar, where they lay in a heap, till (which would soon happen in such hot weather) they began to ferment. This made the most of their leaves turn white. Unwilling, still, to throw them away, I next laid them *on the grass* in front of the house, where they got the dews in the night, and they were covered with a mat during the day, except two days, when they were overlooked, or, rather neglected. The heat was very great, and, at last, supposing these plants *dead*, I did not cover them any more. There they lay abandoned till the 24th *July*, on which day I began planting cabbages in my field. I then thought I would try the hardiness of a *Ruta Baga Plant*. I took these same abandoned plants, without a morsel of *green* left about them; planted them in a part of the piece of cabbages; and they, a *hundred and six* in number, weighed when they were taken up in December, *nine hundred and one pounds*. One of these turnips weighed *twelve* pounds and a half.

But, it ought to be observed, that this was in ground which had been got up in my best manner; that it had some of the best of manure; and that uncommon pains were taken by myself in the putting in of the plants. This experiment shows, what a hardy plant this is; but I must caution the reader against a belief that it is either desirable or prudent to put this quality to so severe a test. There is no necessity for it, in general: and, indeed, the rule is, that the

shorter time the plants are out of the ground the better.

But, as to the business of transplanting, there is one very material observation to make. The ground ought to be as fresh; that is to say, as *recently moved* by the plough, as possible, and that for the reasons before stated. The way I go on is this: My land is put up into ridges, as described under the head of *manner of sowing*. This is done beforehand, several days; or, it may be, a week or more. When we have our plants and hands all ready, the ploughman begins and *turns* in the ridges; that is to say, ploughs the ground back again, so that the top of the new ploughed ridge stands over the place where the channel, or gutter, or deep furrow, was, before he began. As soon as he had finished the first ridge, the planters plant it, while he is ploughing the second: and so on throughout the field. That this is not a very tedious process the reader needs only to be told, that, in 1816, I had fifty-two acres of *Ruta Baga* planted in this way; and I think I had more than fifty thousand bushels. A smart hand will plant half an acre a day, with a girl or boy to drop the plants for him. I had a man, who planted an acre a day, many a time. But, supposing, that a quarter of an acre is a day's work. What are four day's work when put in competition with the value of an acre of this invaluable root? And what farmer is there, who has common industry, who would grudge to bend his *own* back eight or twelve days, for the sake of keeping all his stock through the spring months, when dry food is loathsome to them, and when grass is by nature denied?

Observing well what has been said about earth perfectly fresh, and never forgetting this, let us now talk about the *act* of planting; the mere mechanical operation of putting the plant into the ground. We have a *setting-stick*, which should be the top of a spade-handle cut off, about ten inches below the eye. It must be pointed smoothly; and, if it be shod with thin iron, that is to say, covered with an iron sheath, it will work more smoothly, and do its business the better.—At any rate the point should be nicely smoothed, and so should the whole of the tool. The planting is performed like that of cabbage plants, but, as I have met with very few persons, out of the market gardens and gentlemen's gardens in England, who know how to plant a cabbage plant, so I am led to suppose, that very few, comparatively speaking, know how to plant a turnip plant.

You constantly hear people say, that they wait for a shower, in order to put out their cabbage plants. Never was there an error more general and more complete in all its parts. Instead of rainy weather being the best time, it is the very worst time, for this business of transplantation, whether of cabbages, or of any thing else, from a lettuce plant to an apple tree. I have proved the fact in scores upon scores of instances. The first time that I had any experience of the matter was in the planting out of a plot of cabbages in my garden at Wilmington, in Delaware. I planted in dry weather, and, as I had always done, in such cases, I *watered* the plants heavily: but, being called away for some purpose, I left one row *unwatered*, and it happened, that it so continued without my observing it, till the next day. The sun had so completely scorched it by the

next night, that, when I repeated my watering of the rest, I left it, as being unworthy of my care, intending to plant some other thing in the ground occupied by this *dead* row. But, in a few days, I saw, that it was not dead. It grew soon afterwards, and, in the end, the cabbages of my *dead* row were not only larger, but *earlier* in leaving, than any of the rest of the plot.

The reason is this; if plants are put into wet earth, the setting-stick squeezes the earth up against the tender fibres in a *mortar-like* state.—The sun comes and bakes this mortar into a sort of glazed clod. The hole made by the stick is also a *smooth* sided hole, which retains its form, and presents, on every side, an impenetrable substance to the fibres. In short, such as the hole is made, such it, in a great measure remains, and the roots are cooped up in this sort of *well*, instead of having a free course left them to seek their food on every side. Besides this, the fibres get, from being wet when planted, into a small compass. They all cling about the tap root and are stuck on it by the wet dirt, in which state, if a hot sun follow, they are all baked together in a lump, and cannot stir. On the contrary, when put into ground *unwet*, the reverse of all this takes place; and, the fresh earth will, under any sun, supply moisture in quantity sufficient.

(To be continued.)

ON TRENCH-PLOUGHED LAND,

AND HOW TO FIX THE PLOUGH.

In Mr. Young's Six Month's Tour, is noted an experiment tried in trench-ploughing; and we cannot do greater honour to him, than to give it to our readers in his own words as follows;

The capital improvement effected in tillage, consists in trench-ploughing, viz. A field of eleven acres was ploughed, the rent of which was seven pounds, and sown with barley, &c. and produced as follows: Six acres produced 170 bushels, which sold for 50*l*. Three acres were sown with turnips, and sold for 15*l*. Another acre was sold for 4*l*. Besides these articles, the field produced five bushels of vetches, which sold for 2*l*. three do. of white peas, do, 1*l*. thirty do. of common potatoes, do. 4*l*. nine do. of early potatoes, do. 2*l*. which is per acre, 5*l*. 5*s*. 5*d*. sterling. This crop is, upon the whole, very considerable. The land was before supposed to be very bad, and the rent trifling, besides, this species of improvement has been generally supposed to operate very little at first, the sourness of the under stratum of the soil requiring some time to be sweetened and meliorated by the influence of the atmosphere, so that such product of the first crop must be thought a very great one.

The next year the same land was sown, as before, after trench-ploughing, and yielded twenty five per cent. over last year's proceeds. The third year it was sown with oats and beans, and yielded a profit the same as the first. We cannot avoid taking notice, that the trier of these experiments seems to have no idea of the grand point; namely, that of again turning up the sod, when the roots, &c. were all rotten and turned to manure, which would certainly be the case, by the time the first crop was reaped. It appears that the success in crops was all produced from maiden earth, without any assistance from ma-

nure; but if the whole surface had been turned up, when rested or rotten by an inferior fallow year, the proprietor would have found it enriched beyond expectation, and might have promised himself, if possible, a double return; and it might have been worked with two horses in a plough, as the land would be light and mellow, after the first breaking up. We have had several experiments tried, on different sorts of land, and every one proves, beyond a doubt, that, of all the improvements, none is equal to trench ploughing.

How to fix the plough for trench ploughing.

Though several learned authors have admitted, of the probable advantages of trench-ploughing, yet we do not remember one that has entered heartily upon the cause, or has pointed out a method how the farmer could perform the work, with any reasonable degree of expense. When we have fixed upon the ground to be trench-ploughed, our next step is to try the depth or staple of the soil with a spade, and from this we can judge what depth we would have it ploughed, and fix the ploughs and irons accordingly. If the land be good and deep, the weeds and grass run deep also; consequently, the upper stratum or what compiles the soil, is thick: in this case, the first plough must be fixed so as to run quite under all the roots, by which the next furrow, when turned, will be all fresh mould, or what is called maiden earth, this being turned over the first furrow, which now lies at the bottom of the trench, is what the corn is to grow in, the ensuing year, therefore must be a proper depth or thickness, for that purpose. If the land have a tolerable good bottom, you cannot go too deep; but if it be a very tough, hungry clay, or a poor, red or white sand, in either of these cases it may be prudent not to go so deep the first year, as the clay will be worse to break into small particles; but whether clay or sand, it may be too deep for the roots of the plants to penetrate through in order to feed in the under stratum, which they will stand in need of, in such poor soil; therefore, in such land, go a moderate depth the first year, and add a little more the next trenching, for an ensuing crop.

Any common plough, without altering, will turn the first furrow, and all that is wanted in the next is to add to the mould-board a cast off board, in order to raise the second furrow over the first; and which board is fixed, after the following manner:—The first thing to be observed is, to have the wing of your plough-share so broad as will cut your furrow clean the breadth you intend it: suppose it be ten inches, measuring from the point of the wing to the land side, in this case the wing will be about five inches, you must have a thin plate of iron about two and a half inches broad, welded across the upper side of the wing of the socket, stretching from the breast of the plough to the point of the wing; about half an inch of one edge only is to be welded, the remaining two inches is to remain open in the nature of a flat socket, to admit a thin end of the turn-off board therein; the said turn-off board must be about four inches broad, and so long as will reach from the wing of the socket to the breech of the plough; it must be about two inches thick, and have a bracket at the under side in the nature of a foot of a fender, which

bracket must bear upon the mould-board of the plough, in order to strengthen the cast-off board, that it might bear the weight of the sod when it rises. There must run horizontally through this board, a small iron bolt, one end must be crooked like T; this is to go into a long nich made in the breast of the plough; when in, it must turn half round that it may hold fast therein, by which means it will bind fast the turn-off board, without any other help than this bolt, the bracket under and one end being made thin to go into the socket, that is, in the wing-share, it will be sufficiently strong. As many inches thick as you have turned the first sod, so many inches the hind part of the board must be raised from the sole of the plough, measuring at the breech, so that the sod (as soon as it parts from the wing of the share) rises gradually until it comes to the breech of the plough, then it turns fairly off and it falls upon the first furrow. This is all the addition or alteration that is wanted for performing this valuable piece of work of trench ploughing; it is so simple and easy that no doubt but any common ploughman may fix it for about \$1. In my next, I shall point out the proper season for trench ploughing, with a few philosophical reasons, relating to the salts in the air, and the accidents and diseases to which grain and seed is liable.

Oil of Pumpkin Seed.

C. S. Rafinesque, Esq. to Doct. Samuel Mitchell.

New York, 20th Feb. 1819.

While I was at Harmony, on the banks of the Wabash, in the state of Indiana, last summer, I was told by the industrious German Society of the Harmonites, that instead of throwing away or giving to the pigs the seeds of their pumpkins, as is usually done all over the country, they collected them and made an oil from them which they use for all the purposes of lamp oil and olive oil. It is well known, that all the different species and varieties of pumpkins (genus *cucurbita* Linnæus) afford an oil which has valuable medical properties, possessing in the highest degree the refrigerative quality; but I had never heard before of its being made on a large scale, and for economical uses.

It will be sufficient to mention this fact to some of our enlightened farmers, to induce them to imitate the worthy Harmonites, and I recommend highly the practice, as likely to become eminently beneficial. The pumpkin seeds afford their oil with the greatest facility and abundance. One gallon of seeds will give about half a gallon of oil. They may be pressed like rape and flax seed. Their oil is clear, limpid pale, scentless, and when used for salad instead of sweet oil, has merely a faint insipid taste; it burns well, and without smoke. Those advantages entitle it to our attention as an indigenous production of the first necessity. Pumpkins grow all over the United States, from Maine to Louisiana, and with such luxuriance, as to produce sometimes as much as 50,000 lbs. weight of fruits, and about 2000 lbs. weight of seeds, in one acre of Indian corn without injuring the crop of corn. Those 2000 lbs. of seeds might produce about 200 gallons of oil, worth about 200 dollars. I calculate that about two millions of gallons of such

oil could be made annually in the United States, from the seeds that are wasted or given to cattle and pigs. This is worth saving; and in addition to the bread, pies, soups, dishes, feed, &c. afforded by pumpkins, we shall have a good and wholesome home-made vegetable oil for lamps and food.

An effectual Method of preserving Poultry Houses free from Vermin.

TO THE EDITOR OF THE AMERICAN FARMER.

Sir,

As I do not know that you have positively interdicted all communications from farmeresses, I must ask you to record a grand discovery, which I consider myself to have made, in the noble art of—*raising poultry*.

It may save much trouble to my sister housewives, to whom, according to the order prescribed by the *lords of the creation*, this department of domestic economy has been assigned. It is well known, that in this branch of our humble duties, the greatest difficulty arises from our poultry houses being so much infested with *vermin*; or, to be more plain, in the slang of the poultry yard, with *chicken lice*. Now, I have proved, by long experience, that they will not resort to houses wherein the roots, nest boxes, &c. &c. are made of *sassafras wood*. You may smile, and ask me the reason of it: I tell you I am no philosopher, our business, you know, is with *plain duty and matter of fact*, almost denied the faculty of reason, and positively forbidden to exercise what we have; hence a *learned woman*, you know, is the most odious animal in creation; and if a lady dare to read a word of natural philosophy, it is at the expense of never getting married. But I tell you, *sassafras wood* will keep lice out of hen houses: I know it to be a fact, and when you will tell me, *why it is*, that chips of cedar wood or tobacco will keep woollen free from *moths*, then I will endeavour to tell you *why* it is that *sassafras wood* will keep away chicken lice: one is universally known to be true, the other is no less true, though less known.

A SPINSTER.

WHEAT, TURNIPS, POTATOES AND PUMPKINS.

A comparison has been instituted between the pretensions of these several articles, as respects their capacity to yield nutriment for human and animal subsistence, from a given quantity of land. Each has its champion, and all have been assailed, and defended in their turn, with equal pertinacity and zeal. The conflict, if not bloody, is likely to be long and obstinate.

The two first have been taken under the protection of Mr. Cobbett, and therefore have little to apprehend if the merits of their cause be, in any measure, equal to the untiring zeal and firmness of their advocate.

As long as the Irish retain their character for *gratitude*, the potato will never want a champion; for *they* are not apt to forget, that "the friend in need is the friend indeed."

The pumpkin finds an able asserter of its pretensions, in the pen of col. Taylor, of Caroline.

The potato is strenuously denounced by Mr. Cobbett, as containing, when analyzed, chiefly, *dirt, water and straw*. Col. Taylor agrees, after trial, with Sir Arthur Young, that "hogs will die on them, raw or boiled," and has no better opinion of *turnips*, but probably does not mean Mr. Cobbett's *protegé*, the *ruta бага* or Swedish turnip, which, by the by, differs visibly, in at least two or three respects, from the common turnip; that is, it will bear transplanting—the common turnip will not: it has a smooth cabbage leaf—the common turnip is known to have a very rough leaf. Again: It will remain through the winter in the field, with little or no depreciation—the common turnip will not.

We shall hereafter collect and collate, in one view, the evidence in support of each, leaving the husbandman to compare what has been said by different writers with his own experience; and to adopt his own conclusions. It has been asserted, that the potato is far more nutritious, when prepared by the operation of *steam*, and we have even heard it maintained, that the *water* in which potatoes are *boiled*, is absolutely poisonous to hogs.

For the present we will submit an extract from a writer in the New York Evening Post, who evidently belongs to the tribe of *Potatoites*; after which, the reader will find the cut of a machine (with a descriptive explanation) for steaming potatoes and other roots,* borrowed from the memoirs of the Agricultural Society of Philadelphia.

"It will be admitted, that, in this country, 20 bushels of wheat, of 60 lbs. is a good crop, and far above the average of the state; and, also, that land of such a quality will, on a par of seasons, yield 300 bushels of potatoes; which, when first taken up, will weigh more than 70 lbs. per bushel; for a bushel kept in a dry, open cellar all winter, and whose loss of weight must, from appearances, be considerable, weighs, this 30th March, 66 lbs.

Sir H. Davy, in his lectures (sec. 3. p. 133,) states the whole quantity of nutritive matter, in 1000 parts of American wheat, to be 955, and in 1000 parts of potatoes to be from 200 to 260—average, 230: thus, an acre of wheat, yielding 20 bushels gives, at 60 lbs. per bushel, 1200 lbs. If 1000 give 955, 1200 will give 1146 lbs. the actual quantity of nutritive matter in an acre of

wheat. An acre of potatoes, yielding 300 bushels, of 70 lbs. gives 21,000; then, if 1000 give 230, 21,000 will give 4830 lbs. the actual quantity of nutritive matter in an acre of potatoes.

This root, then, is not, as Mr. Cobbett asserts, "worse than useless," but, on the contrary, worth at all times, at least one fourth of the price of a bushel of wheat; or, give it its full value as a crop, and one acre contains more human food than four acres of wheat— $1146 \times 4 = 4584$. This, at least, is the only true standard by which to estimate its value as the food of man. But Mr. C. says, value wheat at 16s. what are the roots worth relatively? It may be answered thus: Four acres wheat, 80 bushels, at \$2, \$160. One acre potatoes, 300 bushels, at $53\frac{1}{2}$ cents, \$160. Thus then, potatoes are relatively worth 53 cents per bushel of 70 lbs. when wheat is worth \$2 per bushel of 60 lbs.

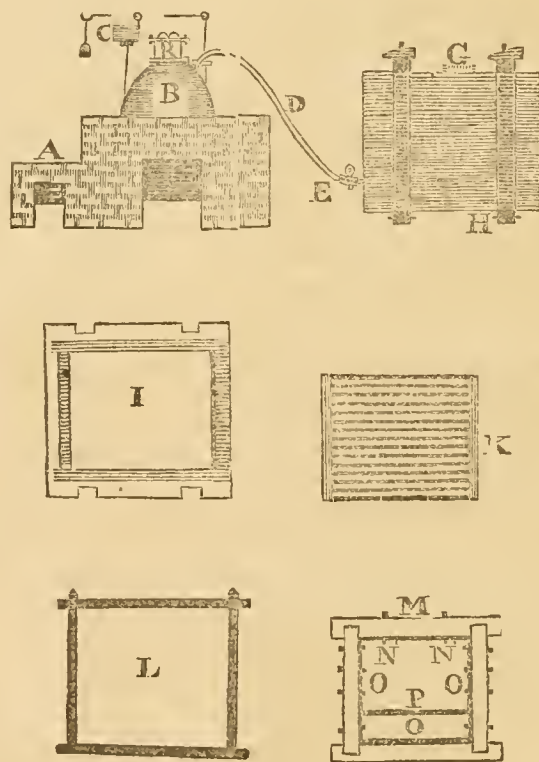
As food for animals, the valuable properties of potatoes are too well known to admit of question. With a little hay, they feed oxen; and, producing excellent beef and mutton; in cows they greatly increase the secretions of milk; steamed, they fatten horses and hogs—the latter, however, not firmly; and of poultry it may form the only food.

Mr. Cobbett dismisses the potato as being for cattle, sheep or hogs, "the worst of all green or root crops"—Swedish turnips the very best.—But let us to the proof, 20 tons, or 640 bushels of 70 lbs. may be considered with us, a good average crop—total weight, 44800 lbs. Sir H. Davy, (in the aforementioned table) states—1000 parts of Swedish turnip yield 64 parts of nutritive matter. Then, if 1000 gives 64, 44800 will give 2867 1-5, the actual quantity of nutritive matter in an acre of Swedish turnips. The relative value of each, will therefore appear thus:

One acre of wheat yielding 20 bushels of 60 lbs. gives of human food	1146
One acre of Swedish turnip, 640 bushels, 70 lbs.	2867
One acre of potatoes, 30 bushels, 70 lbs.	4830

It is in the power of almost every farmer to test and decide upon the foregoing statement; accuracy of which will, no doubt, determine him whether he ought, or ought not, to continue the fashion of cultivating and eating such a "filthy" root as the potato, nine tenths of which, according to Mr. Cobbett, consists of "dirt, straw and water."

Description of a Steam Apparatus for boiling potatoes, turnips, &c. for cattle; communicated in a letter from Mr. John Bell, of Overton-House, England, to Mr. Edward T. Grant, of Shrewsbury, New Jersey. Communicated by Reuben Haines.



EXPLANATION OF THE CUT.*

A Pot to heat water for the boiler.

B Boiler.

C Cistern of hot water to supply the boiler, regulated by a float and valve.

D Steam-pipe, 2 inches diameter.

* That our subscribers may more correctly appreciate the *expense* of conducting a work of this kind, they will excuse us for mentioning that this cut alone cost us \$10; yet, we shall have cuts made whenever we find them necessary, and can get them done, to illustrate the construction of either new implements of husbandry, or new systems of planting or of cultivation.

The generous encouragement given to the *American Farmer*, imposes the obligation to spare no pains in making it useful. To this object, therefore, the Editor will devote his hours of leisure from official duties, with pleasure and zeal; satisfied, if the proceeds of the paper defray the expenses actually incurred in its publication, and if its circulation contribute, in some degree, to improve the practice of the husbandman, on whose labours the comfort and wealth of all other classes so much depend.

E Stop-cock to turn the steam on or off.
 F Side view of the cistern or steaming-box.
 G Opening in the top to put in the potatoes, &c.
 to be tight closed while steaming.
 H Strong wood couplings.
 I Bottom floor of the steaming-box.
 K Second floor raised nine inches from the bottom, and made of bars of cast iron.

The steam is introduced into the open space betwixt the floors, by means of the pipe D, and passes through the grate-bars to the potatoes.

L Coupling frame to keep the cistern firm.
 M End view of the steaming cistern without the door.
 N N Hinges to hang the door.
 O O Frame, bolted to the sides, for the door to shut against.
 P Floor of grate-bars.
 Q Space for the steam betwixt the floors. The door to be made to fit as tight as possible, to prevent the steam from escaping.
 R A door for a boy to go in occasionally, to clean the bottom of the pan from sediment.

My steaming cistern, or box, is made with five large flags, or planks, and a wood door; the whole firmly held together with a strong wood coupling frame. They should not be less than two inches thick, and dovetailed together, as the steam is very powerful. My boiler contains about 70 gallons: it is made of two cast iron pans with broad rims, one turned over the other and screwed together with a joint of paint and flannel. It should be about half full of water when in use.

* The Editor of the American Farmer recommends, for common use, on a *small scale*, a more simple contrivance, consisting of a large iron pot, put up in the usual way of a country still, and for the roots, a barrel to fit tight over the top of a pot, with holes bored in the bottom. For a cut and explanation of this contrivance, see Bordley's System of Husbandry. We shall have the cut made and inserted in some future number of our paper.

COMMUNICATIONS.

FOR THE AMERICAN FARMER.

To the Lieutenants and Midshipmen

OF
THE UNITED STATES' NAVY.

No. I.

GENTLEMEN,

Six letters have been addressed to Lord Viscount Melville, first lord of the admiralty, by a "Post Captain," in the British navy.

Of the merit of these letters I have nothing to say, and but little of the facts therein stated, and the object of them is so obvious, that it is scarcely necessary to trouble you on that; nor should they have been mentioned by me, but to justify the course I have taken in addressing you. His letters are calculated to produce an effect in England, which is in opposition to the best interests of this country: mine, I hope, will, in some measure counteract it, or, at least, guard us against

the evils which his are intended to bring upon us. With the good of my country, then, in view; with the honour and glory of its navy as my guide, I appeal to you, who are to be their future support, their pride or disgrace.

I shall not, like the "Post Captain," complain of the ingratitude of your country, or of those who administer its affairs. I shall not, like him, rely solely on those measures which are likely to operate on your private interests, to produce results beneficial to that country. I shall not endeavour to stimulate you by the hopes of those rewards, which it is the peculiar privilege of monarchy to bestow. I shall not insult you by endeavouring to work on your vanity, your self-interest, or your resentment—I shall appeal to your more exalted feelings. Your country has extended to you her parental care; the navy is her favourite child; those who administer her affairs act in conformity with her will; her honour and interest are yours, they are inseparable; and the highest reward you can hope to receive from her, is her applause. This she has bestowed when it was merited, and for whatever services you have rendered her, you have been most amply remunerated. I shall not, therefore, address such feelings as may be supposed to influence the officers of the British navy. I appeal, then, to your patriotism, your pride and your good sense. Perhaps I may not be found equal to the task I have undertaken, (which is to explain to you what are the true interests of your country, and, of course, your own) but I beg that my good intentions may be taken into consideration, and in whatever I may prove wanting, I ask of you to extend to me the same indulgence, which your country has extended to you, whenever you failed of success, for want of strength, and not of will.

I shall address you in the language of friendship, and as there is no friendship without candour, I shall be candid; it is the province of friendship to expose to us our faults. In the character, then, of a candid friend, I shall assume the privilege of guarding you against such errors as may be likely to operate against the interests of that country for whom you have, at all times, shown a willingness to lay down your lives. I hope I shall be able to do so without offending.

I may be asked, why I have confined this address to you? Why not extend it to higher classes? I answer, that the advance of officers in our navy must necessarily keep pace with its gradual increase; that those whom I now address, are those who are most likely to be in command when our navy shall be in its greatest strength; that my advice to those whose experience has been our successful guide, would be more than useless—it would be presumptuous: besides, I am comparatively young in years, perhaps actually more so than some whom I now address; and youth has no privileges over age. Besides, it is the nature of a man to wear away and to die; and even were it necessary to produce an effect on those, I should not make the exertion, lest when the time arrived, when benefits might be expected from them, their age or death might render them nugatory. You are advancing into life, you are the future admirals and commanders of our fleets, and it is now that you must prepare yourselves for the trust which is to be reposed in

you, and render yourselves worthy of the confidence of your country. The honour of your country's flag shall be entrusted to you; thousands of human lives and millions worth of public property will be dependent for safety upon your skill. The applause of millions of freemen will reward your success; eternal infamy will punish your want of those qualifications, which your country has a right to expect of you, and for which she is now fostering you, when she can derive no immediate advantages from your service, equivalent to the benefits you receive.

Peace is the proper time to prepare for war. Youth is the proper time to prepare for age. Now is the proper time for you to prepare yourselves for higher stations. The writer of this, who entered the service at the commencement of our navy, and has passed through every grade to his present rank, and although he has been in constant employ, and cannot reproach himself with a deficiency of zeal, had not the advantages which you now possess—our country had not aspired to rival England as a naval nation; we had not grappled with the lion on the ocean; we were almost taught to believe, that

"The winds and seas were Britain's wide domain;"

and it was not until after the flag of the *Guerriere* was struck to the Constitution, that the mist was dispersed from our eyes. What was done by one commander, was thought practicable by another; and it became at last almost fashionable to finish a cruise by the capture of an enemy's vessel of superior force; nay, our privateers sometimes grappled with their vessels of war, and were successful. Thus, by a series of brilliant victories, were you taught that Britons were not invincible: and, while that nation gave vent to its unavailing regrets and expressions of the utmost mortification, they could not but acknowledge that it required all their efforts to oppose the bravery and skill of our navy. That nation was desponding—the navy, their pride and their bulwark, had fallen in their estimation—their ships were half conquered ere a shot was fired, and our triumph was complete; one, and only one, solitary instance occurred to dampen our country's joy, and this arose from want of skill in that class of officers whom I now address. Had not the gallant *Lawrence* fallen, it is my firm belief that the *Chesapeake* would have proved victorious.

Hosts of British writers have been employed to raise the drooping spirits of their nation and navy; they have unceasingly endeavoured to spirit them up to one more struggle with "the young Hercules on this side the Atlantic;" to this end every artifice is used that ingenuity can invent, or malice devise—our ships have been magnified in their dimensions and force; they would tarnish the splendour of our victories, and would endeavour, by falsehood and misrepresentation, to raise the fallen crest of England's pride.

Our country, seeing the success which had crowned the efforts of a few, and believing that an augmentation of its naval power was all that was wanting to ensure to us complete success over the colossal navy of England, has given the most unquestionable proof of her confidence in

the honour, integrity, bravery, abilities, and skill of her naval officers, by the most liberal appropriations for the augmentation of her naval establishment. She has done more: she is not only willing to furnish the weapons, but the skill to use them. In a time of profound peace, she has kept up a larger naval establishment than at any former period of her existence. Fleets have been sent to the Mediterranean; single ships around the world,—into the Indian ocean—to England—to Russia—to France—to Spain—others are still fitting out. Wherever knowledge may be obtained—wherever experience may be found, there our ships are sent, with as many officers as can be accommodated on board of them. Do you believe that this arises from national vanity? from the folly of parade and show? or from a prudent forethought of the manner in which the ships now building are to be officered? Have you any doubt of the motive? Why are all the means of instruction furnished you? means, which I have more than once regretted that I had not the good fortune to profit by, at an earlier period of my life.

If, then, the weapons are to be placed in your hand, if you are, at the expense of your country, to be instructed in the use of them and if she asks nothing in return but the gratification of rewarding you for their successful application, how unpardonable would it be in you to let slip the opportunity of profiting by her kindness. You would neglect your duty to yourself—you would neglect your duty to your country. Nay, more; you would be guilty of a *fraud*—you would be consuming her substance without any intention of making an adequate return for the support she gives you. Far be it from me to attribute to any of you, a motive so base. This would be placing you below the level even of British officers. But whatever may be your motives, or whatever may be the cause, it is pardonable in me to express my regrets that so many of you are at this time on shore, when it is manifestly the wish of the country, that you should be at sea, and laying in a stock of experience for future exigencies. If you have not, heretofore, discovered what are the true interests of your country, and the mode of furthering them, let me, as your friend, admonish you:—disappoint not our country in its dearest, its fondest hopes. Suffer not the finger of reproach to be pointed at you; apply unceasingly at the department for active employ, and if you fail, let not the fault be yours. The race of honour is to be run—the prize is set before you, and it is worth preparing yourselves to contend for. Those who do not feel disposed to profit by the advice here given, are apprized that it will only be a waste of their time to read my next letter; they may employ themselves more agreeably in the pursuit of idle pleasures. I ask the attention of only those who are disposed to make themselves useful to their country.

A NAVAL OFFICER.

FOR THE AMERICAN FARMER.

DOMESTIC MANUFACTURES.

The same patriotic spirit which prompts you to devote a large portion of your paper to agriculture, may induce you to insert in it, occasionally, a few thoughts on domestic manufactures.

The future prosperity of our country will depend upon the growth of the latter not less than upon improvement in the former; and it is highly honourable to the state of Maryland, that her citizens are at the same time endeavouring to encourage her husbandmen and her artisans; that while the agricultural society is active in promoting good culture in her soil, the economical society is zealous to build up and maintain her factories.

The only support of a nation consists in its own productions. Without dependence upon foreign aid or liability to insolvency, the inhabitants of a country must subsist upon their own labour. It is not necessary to their welfare that they should abstain from eating, drinking, wearing and using things which have not been reared or wrought within the limits of their own territory, provided they can advantageously exchange the fruits of their own soil and industry for the goods of other climes. But when they have not any thing to give which their foreign creditors will receive, or not a sufficiency of what they will receive to satisfy their claims, it is unquestionably the part of prudence to live without foreign goods, rather than incur an unextinguishable debt, and plunge themselves heedlessly into the deep miseries of poverty and dependence.

These general propositions are plain, and all readily assent to their truth. But there may be some difficulty in determining what should be done in particular cases, and consequently some disagreement in the opinions of different persons. If, for instance, one man should say that Americans ought to make their own hats and boots; their own spades, shovels, knives, forks and plates; another, on the contrary, might assert that they ought to use those made by the people of England. Or if there should be no difference of opinion in regard to some things there might be in regard to others; so that a considerable number would object to the encouragement of domestic manufactures in general, and particularly to the manufacture of cotton and flax.

Our object, in such attempts as may be made, will be to show the unreasonableness of the objections generally urged on this subject, and the wisdom of encouraging the useful arts in America, in order that she may be a nation of wealth, power, and independence.

OPIFICI AMICUS.

MISCELLANY.

To make Naples Biscuit.

One pound and a half of flour, the same quantity of sugar, 9 eggs, half a pint of rose water; beat the eggs well, put the rose water in by degrees, then mix the flour and sugar together, put in by degrees.

French mode of making Brandy-Peaches.

Preserved fruit is generally cloying, and often times unwholesome to the stomach, because of its *unmixed sweetness*, arising from the manner in which they are usually prepared.

The most grateful preparation of the *peach* we have ever seen, is that which is accomplished by the following process:

Scald them in hot water, then dip them in hot strong lie, rub them with a cloth and throw them into cold water; make a syrup of 3-4 pounds of sugar to one pound of fruit, and when cold put an equal quantity of brandy.

PERSIMMON BEER.

The following receipt for a very pleasant beverage, is published verbatim, as it was furnished us by a particular friend. *Mr. Jefferson's Receipt.*

"Gather the persimmons perfectly ripe and free from any roughness, work them into large loaves with bran enough to make them consistent, bake them so thoroughly that the cake may be brown and dry throughout, but not burnt, they are then fit for use; but if you keep them any time, it will be necessary to dry them frequently, in an oven moderately warm. Of these loaves broken into a coarse powder, take eight bushels, pour on them 40 gallons of cold water, and after two or three days draw it off; boil it as other beer, hop it; this makes a very strong beer. By putting 30 gals. of water in the same powder, and letting it stand two or three days longer, you may have a very fine small beer.

Moveable Axle.—Mr. Ackermann has taken out a Patent for a most useful and ingenious invention, viz. a Moveable Axle applicable to all four-wheeled carriages. Its advantages over the stiff axle are numerous—A carriage with the Moveable Axle will turn in a much more limited space: It permits a carriage to be built shorter, and of course diminishes the draught.—It affords complete security against upsetting; and is, in like manner, a safeguard against accidents in turning, the wheels never changing their position, but only their direction.—With the Moveable Axle the fore-wheels can be made much higher, while the body may be hung lower. A high fore-wheel adds much to the beauty of a carriage, while it also greatly reduces the draught and surmounts obstruction with much greater facility. It is by no means so liable to break as the stiff axle; and the breaking of the perch-bolt is rendered next to impossible. A carriage with a Patent Moveable Axle requires but 6 pieces of timber, including the pole, instead of 20. This gives the carriage an airy appearance, and reduces the rattling noise.

Lithography.—The art of Lithography continues to make most rapid progress in France, from the rival exertions of Count Lasteyrie and M. Englemann: their spirited emulation has done for it what a monopoly would not have accomplished in a century. Under Count Lasteyrie's care it rivals copper in almost every line of engraving, and possesses, besides, advantages peculiar to itself. A series of Lithographic prints, by Count Lasteyrie, is now published at Paris; the second number of which, containing 6 plates, has just appeared; the 6th plate is written music, or, as the Lithographers denote it, *autographed music*. The method by which this plate is executed, displays one of the most important advantages of Lithography: a person writes a letter, composes music, or makes a drawing on paper in the ordinary way, excepting that he uses a peculiar ink, this is transferred to the stone by simply passing it through the press, and the stone,

without further preparation, is ready to print off thousands of proofs, all equally perfect.

It is this quality of Lithography, that has secured its admission into all the French public offices: by its means 60,000 or 70,000 proclamations, in the autograph of the Minister, may be taken off and despatched before the plate could even be engraved.

LIMING SEED WHEAT.

A respectable correspondent informs us, that unslacked lime has been found to answer an excellent purpose, in preparing wheat for seed. The gentleman states, that he put about 4 or 5 pounds of quick lime into a sufficient quantity of water to soak 1 bushel of wheat, which he sowed the last spring, then added the wheat, and permitted it to remain about twelve hours. The lime by slacking, raised the temperature of the water to blood heat, and the wheat became soft and apparently parboiled. On sowing it, however, it sprouted much sooner than usual, flourished remarkably, and produced an excellent crop, entirely free from any appearance of smut. The above is probably the least expensive, and most efficacious mode of preparing wheat for seed, that has yet been discovered.

Mr. Amos Wood, of Boston, on the 30th March, 1818, brought from Concord, Mass. to Boston, a female hog, which then weighed 596 pounds and has kept her ever since in that town. She was weighed again on the 30th of March, 1819, when she weighed 1106 lbs. having gained 510 lbs. in 365 days, and is now apparently thriving more rapidly than ever. Her food is varied every day, and she has a salt fish, and the water in which it is boiled, once a week. She has never had but one litter of pigs, and one of these now weighs 600lbs. She girths 7 1 2 feet, and is 8 feet long.

We have just received the first number of a new paper, published in Claiborne, Alabama Territory.—It carries a profitable appearance, and is *extremely well* printed. It contains an interesting article to emigrants, from which we copy the following;

"The town of Claiborne has natural advantages that will always ensure its prosperity.—It is situated equi-distantly from Mobile, Blakely and Pensacola, to all of which places the best of roads can be had with no more labour and expense than cutting down the natural growth of the country. Its elevation of two hundred feet above the water in the Alabama river, gives it an appearance truly romantic; the view from it to the west and northwest is equally picturesque and pleasing. It is watered by innumerable springs of clear and pure water, which issue from the bluff, and precipitate themselves into the river below, forming beautiful cascades—five considerable streams of water empty into the river, within eight miles of the place, affording large tracts of fertile land, which are now settled by rich and respectable planters from the Carolinas and Georgia. Experienced and able merchants from Boston and New York, aware of the importance of the place, have settled themselves permanently here, and are realizing the profits of their foresight. Two

thousand inhabitants, thirty stores, two female seminaries, and a grammar school, afford ample proof of the eligibility of the site for a town, and the capacity of the neighbouring country to support it.

Day of Fat things.—Of the numerous improvements of which our country can boast, that made in rearing *Hogs* is perhaps the most extraordinary, and ought to confer on the individuals who have been instrumental in introducing and promoting in our country breeds so capable of improvement, the proud title of *Public Benefactors*. This remark occurred, from learning that one of our merchant victuallers purchased no less than sixty thousand weight of pork, principally raised in *New Hampshire* and *Vermont*. We saw about thirty of the animals which composed the purchase, and which, for whiteness of flesh, smallness of bone, thinness of skin and ears, and plumpness of body, could not be exceeded. Some of them we learn, before slaughtered, could scarcely see, were unable to rise on all their legs, and were fed in recumbent position. We were told by the drivers, that a Farmer in one of the upper towns in *New Hampshire*, has in one pen twenty pigs, which when slaughtered, it is supposed, will weigh eight thousand weight; and that another neighbouring farmer has twelve others, which are expected to weigh 6000 wt.—*Bos. fafr.*

STATUE OF WASHINGTON.

This elegant Work, by the celebrated *Canova* of Italy, which is to grace the North Carolina State House, we learn, is nearly completed, and may be expected here in the course of twelve months. A letter from Mr. Appleton, our Consul at Leghorn, to his Excellency Governor Branch, thus describes the statue:

"The inscription is placed on the architrave of the front part of the pedestal; below is represented Lord Cornwallis delivering the sword to Gen. Washington: in both groups appear about twelve military figures. No. 2, represents Washington resigning his commission into the hands of the President of Congress, at the close of the war. No. 3, is Washington receiving the unanimous suffrage, which places him at the head of the government, and No. 4, is Washington, holding a plough, drawn by two oxen; behind is an humble cottage, near to which are seen Ceres and Mercury, with their suitable emblems."

BALTIMORE:

FRIDAY, APRIL 16, 1819.

PROSPECTS FOR WHEAT—Advantages of harrowing small grain confirmed.

Since the date of our last number, we have had the pleasure to converse with Mr. *Cockey*, a farmer of great respectability and extensive possessions, residing near Westminster, in Frederick county, from whom we learn, that the prospects for wheat at this season, were never better, *within his recollection*. Its promising appearance is attributed to the mildness of the winter, and the numerous snows, since the commencement of the severe frosts, the last of February and through the month of March.

He fully confirmed the correctness of our sug-

gestion respecting the advantage that would probably result from harrowing small grain in this month. He says, that last year, he had occasion to remove a harrow from one field to another, to harrow in oats, and that he made the boy take a breadth in crossing a wheat field, and, in returning he passed the harrow close along side the former breadth, so that there was twice the breadth of a two-horse iron-tooth harrow dragged over.

At first, it looked as if nearly all was torn up by the roots, and his neighbours who saw it, united with him in the apprehension, that he had almost utterly destroyed so much of his wheat; immediately, however, after the first rain which succeeded, the wheat so harrowed, and so apparently destroyed, spread out and grew off with amazing rapidity, assumed a deep green colour, and maintained, throughout the whole year afterwards, a visible superiority, which was consummated, as he verily believes, by a considerably increased quantity of grain. He says it seemed to have the same effect as a good working of any other crop, and he means to report the experiment on a much larger scale this year.

Translated by the Editor, from the volume of "Archives of discoveries, and new inventions," for the year 1818.

LACTOMETER,

AN INSTRUMENT TO DETERMINE THE QUANTITY OF CREAM THAT MILK WILL PRODUCE.

It is well known, that the value of milk, is determined by the quantity of cream which it affords, but this quantity varies, according to the cow's health, age, and nature of her food.

SIR JOSEPH BANKS, President of the London Royal Society, has made a very simple instrument, which the intelligent husbandman will not fail to use, and whereby he can ascertain, with precision, the quantity of cream which may be procured from the milk, either of different cows, or from the same cow, sustained on different food.

This instrument is made with a certain number of glass tubes, of the same internal diameter; that is to say, about $\frac{1}{4}$ of an inch, and $\frac{1}{4}$ inches long.

These tubes are closed below, and open at the top, and are all supported in a verticle position, in the same manner, upon a wooden or any other frame.

Within ten inches of the bottom, every tube is numbered 0 (zero) from which above and below, many divisions are made, to the extent of three inches, each one at the distance of one tenth of an inch, apart, and consequently corresponds to 1-100 part of the total length of the tube.

Now if several of these tubes are filled at the same time, with fresh milk, and exposed to the same temperature, the cream will arise at the top of the column, and its thickness will be exactly indicated by means of the external division.

The influence of the different kinds of pastures, may be established without difficulty.—(*Journal of Sciences and the Arts, July copy, 1818.*)

THE CIRCULAR SAW.

That valuable paper, *Niles' Weekly Register*, of the 28th ult. contains a description of the construction and mode of operation of the *Belt Saw*, said to be "newly invented" by Mr. *Adam Stewart*.

Amongst other valuable French writings on Agriculture and Domestic Economy, which have recently fallen into the hands of the Editor of the *American Farmer*, are the volumes "Discoveries and Modern Inventions," coming down to 1818, inclusive. In the one containing Discoveries made in 1815, we find a minute description of the Belt or Circular Saw, which we had translated for this paper, but the want of room compels us to postpone it to the next. The credit of the discovery is given to *M. Tourade*.

POETRY.

There is something peculiarly sweet and soothing in the following: and as used, from whence we gathered it, (following an account of the loss of a dear friend, drowned at sea) extremely applicable and grateful.

An Extract.

PEACE to his shade, who sunk to sleep,
Where earth a sepulchre denied;
Entomb'd beneath the stormy deep,
And confin'd in the restless tide.

Without one kindred bosom near,
Thy breaking heart's last wish to tell;
Without one weeping friend to hear
The last—last tones of life's farewell!

Oh! I had thought in future days,
Our youth's fond friendships to renew;
Had hop'd again with thee to gaze
On scenes where bliss too sweetly flew.

But *now*!—the foaming billow's surge
Hides thee from all who lov'd thee here;
And their last greeting—is the dirge
Thus wafted o'er thy watery bier.

Yet mouldering in thine ocean grave,
Though the broad sun rolls o'er thee ever;
Though bursting thunders shake the wave,
And ruthless time thy relics sever;

Still—still on earth thou hast a shrine,
Where no rude storms can break thy rest;
The tomb for such a heart as thine,
Is—deep in each survivor's breast!

New London Books.

JUST RECEIVED by the Franklin—Shakespeare's Genius justified—being Restorations and Illustrations of Seven Hundred Passages in Shakespeare's Plays—By T. Jackson.

The Annual BIOGRAPHY and OBITUARY for the year 1819.

ST. PATRICK, a National Tale of the 5th Century, 3 vols.

COQUETRY, a Novel in 3 vols.

CAMPBELL, or the Scottish Probationers, a Novel in 3 vols.

Will be opened to-morrow.

A select assortment of *Stationary*, by the Franklin.

April 16

N. G. MAXWELL,
No. 140 Baltimore Street.

SAVING BANK INSTITUTION.

A late Boston paper, by vote of the Institution, exhibits an accurate statement of the condition of the *Savings' Bank* in that town. It appears, that the number of deposits, from \$1 up to \$1037 is 2385; that the whole amount now in fund, is (including dividends not paid) 152,873—86.

— This sum has been gathered from the hard earnings of the poorer class of society, and instead of being squandered, as heretofore, their little surplus is placed in a condition to operate a general benefit; more especially to those whose limited means have afforded them very little opportunity of tasting of the blessing of—*interest*! Their scale of interest we are unacquainted with; but supposing the depositors entitled to 5 per cent., there will annually be distributed among them the sum of \$7643—70, and the principal saved!

GARDENING.

F. LUCAS, JR.

No. 138, MARKET STREET,

HAS THIS DAY PUBLISHED,

THE

Practical American Gardener;

Exhibiting the TIME for every kind of WORK in the

Kitchen Garden	Flower Garden
Fruit Garden	Hop Yard
Orchard	Green House
Nursery	Hot House
Shrubbery	AND
Pleasure Ground	Grape Vines

FOR EVERY MONTH IN THE YEAR,

By an Experienced Gardener.

F. L. has received a few copies of "*Cobbett's Year's Residence in the United States*," together with a variety of BOOKS in every department of literature—which, with his former assortment makes his collection very extensive and complete.

— Orders for the country, executed promptly, and on terms as reasonable as any where in the U. States. April 16

ORFEILA ON POISONS.

Just published,

AT NO. 140, BALTIMORE STREET,
DIRECTIONS,

For persons who have taken poison, and those in a state of apparent death, together with the means of detecting poison, and adulterations in wine. Also, of distinguishing real from apparent death, translated by R. H. Black, surgeon; with an Appendix on suspended animation, and the means of prevention. First American from the late London edition.

This work will be found useful to Practitioners, Students and Families generally—12mo. in boards, price \$1 25.

N. G. MAXWELL.

March 10.

ORDAINED.—On Wednesday, 12th inst. the Rev. JOHN PIERPOINT, lately of this city, was ordained Pastor of the Hollis Street church and society in Boston. He takes the place of the Rev. Mr. Holley, removed to Kentucky. During the interim, that pulpit has been occupied by Mr. SPARKS, who, it is expected, will be ordained Pastor of the Unitarian church of this city.

Cobbett's Seeds and Books.

I HAVE sent my servant James Hammerton, to Baltimore, to sell for me seeds, just imported from England. He will sell at such spot in the Market place, as he shall point out, or at such other place as he may think most convenient, seed of the Ruta Baga, Mangel Wurtzle, Cabbages, of the finest sorts, for the table and for cattle; Turnip, first sort for the garden and the field; Lucerne, Sain-Foin, Trefoil, Coleseed or Rape, White Clover, and divers other seeds. Hammerton has also for sale, the First and Second Parts of my Year's Residence, in which is described the mode of cultivating the several plants. He has also the Third Part for sale, if any gentleman would wish to have the work complete. He has also for sale some of my English Grammer, two editions of which, of five thousand each edition, were sold in London between the middle of December and February, when the third edition was published.

WM. COBBETT.

James Hammerton, mentioned above by Mr. Cobbett, gives public notice, that he has arrived in Baltimore, and has taken a stand under the store of L. Holmes, jr. in Lexington Street, two doors from Paca Street, opposite the New-Market where he will be found on Mondays, Tuesdays, Thursdays and Fridays; and on Wednesday and Saturday, opposite the Horse Market, in the Marsh Market. April 16

AGRICULTURE.

THOMAS DOBSON AND SON,

PHILADELPHIA.

PROPOSE TO PUBLISH,

A new and important Agricultural Work,
NATURE AND REASON HARMONIZED,

IN THE

PRACTICE OF HUSBANDRY,

BY JOHN LORRAN.

A Distinguished Practical Farmer.

A prospectus and contents of the work, in 2 vols. octavo may be seen at No. 140, Baltimore Street, where subscriptions are received.

N. G. MAXWELL.

March 17

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,
BALTIMORE,

AT FOUR DOLLARS PER ANNUM.

PAYABLE IN ADVANCE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VING.

VOL. I.

BALTIMORE, FRIDAY, APRIL 23, 1849.

NUM. 4.

AGRICULTURE.

The RUTA BAGA or SWEDISH TURNIP.

—
FROM COBBETT'S YEAR'S RESIDENCE.
—

(Continued from No. 3, page 18.)

Yet, in July and August, both in England and America, how many thousands and thousands are waiting for a shower to put out their plants! And then, when the long wished-for shower comes, they must plant upon stale ground, for they have it dug ready, as it were for the purpose of keeping them company in waiting for the shower.— Thus all the fermentation, which took place upon the digging, is gone; and, when the planting has once taken place, farewell to the spade! For it appears to be a *privilege* of the Indian Corn to receive something like good usage *after being planted*. It is very strange, that it should have been thus; for, what *reason* is there for other plants not enjoying a similar benefit. The reason is, that they will produce *something* without it; and the Indian Corn will positively produce *nothing*; for which the Indian Corn is very much to be commended. As an instance of this effect of deeply moving the earth between growing crops, I will mention, that in the month of June, and on the 26th of that month, a very kind neighbour of mine, in whose garden I was, showed me a plot of *Green Savoy Cabbages* which he had planted in some ground as rich as ground could be. He had planted them about three weeks before; and they appeared very fine indeed. In the seed bed, from which he had taken his plants, there remained about a hundred, but, as they had been left as of no use, they had drawn each other up, in company with the weeds, till they were about eighteen inches high, having only a starved leaf or two upon the top of each. I asked my neighbour to give me these plants, which he readily did; but begged me not to plant them, for, he assured me that they would *come to nothing*. Indeed, they were a ragged lot; but, I had no plants of my own sowing more than two inches high. I, therefore, took these plants, and dug some ground for them between some rows of scarlet-blossom beans, which mount upon poles. I cut a stick on purpose, and put the plants very deep in the ground. My beans came off in August, and then the ground was well dug between the rows of cabbages. In September, mine had far surpassed the prime plants of my neighbour. And in the end, I believe, that ten of my cabbages would have weighed more than a hundred of his, leaving out the stems in both cases. But his had remained uncultivated *after planting*. The ground, battered down by the successive heavy rains, had become hard as

brick. All the stores of food had been locked up, and lay in a dormant state. There had been no renewed fermentations, and no exhalations.

Having now said what, I would fain hope, will convince every reader of the folly of *waiting for a shower*, in order to transplant plants of any sort, I will now speak of the mere act of planting; more particularly than I have hitherto spoken.

The hole is made sufficiently deep, deeper than the length of the root does really require; but, the root should not be bent at the point, if it can be avoided. Then, while one hand holds the plant, with its root in the hole, the other hand applies the setting-stick to the earth on one side of the hole, the stick being held in such a way as to form a sharp triangle with the plant. Then pushing the stick down, so that its point goes a little deeper than the point of the root, and giving it a little twist, it presses the earth against the point or bottom of the root. And thus all is safe, and the plant is sure to grow.

The general and almost, universal fault is that the planter, when he has put the root into the hole draws the earth up against the *upper part* of the root, or stem, and, if he pressess pretty well there, he thinks that the planting is well done. But, it is the *point* of the root, against which the earth ought to be pressed, for there the *fibres* are; and, if they do not *touch* the earth *closely*, the plant will not thrive. The *reasons* have been given in former Paragraphs, in speaking of the *sowing of seeds*. It is the same in all cases of *transplanting* or *planting*. Trees for instance, will be sure to grow, if you *sift* the earth or pulverize it very finely, and place it carefully and closely about the roots. When we plant a tree we see all *covered* by tumbling in the earth; and it appears whimsical to suppose that the earth does *not touch* all the roots. But, the fact is, that unless great pains be taken, there will be many cavities in the hole where the tree is planted; and, in whatever places the earth does not closely touch the root, the root will mould, become cankered, and will lead to the producing of a poor tree.

When I began transplanting in fields in England, I had infinite difficulty in making my planters attend to the directions, which I have here given. "*The point of the stick to the point of the root.*" was my constant cry. As I could not be much with my work-people, I used, in order to try whether they had planted properly, to go after them, and now-and then take the tip of a leaf between my finger and thumb. If the plant resisted the pull, so as for the bit of leaf to come away, I was sure, that the plant was well fixed; but, if the pull brought up the plant out of the ground, then I was sure, that the planting was

not well done. After the first field or two, I had no trouble. My work was as well done, as if the whole had been done by myself. My planting was done chiefly by *young women*, each of whom would plant half an acre a day, and their pay was *ten pence sterling* per day.

What a shame, then, for any *man* to shrink at the *trouble* and *labour* of such a matter! Nor let it be imagined, that these young women were poor, miserable, ragged, squalid creatures. They were just the contrary. On a Sunday, they appeared in their white dresses, and with silk umbrellas over their heads. Their constant labour afforded the means of dressing well, their early rising and exercise gave them health, their habitual cleanliness and neatness, for which the women of the south of England are so justly famed, served to aid in the completing of their appearance, which was that of the fine rosy-checked country girls, fit to be *help mates*, and not a burden, of their future husbands.

But, at any rate, what can be said for a *man* that thinks too much of such a piece of labour? The earth is extremely grateful; but it must and will have something to be grateful for. As far as my little experience has enabled me to speak, I find no want of *willingness to learn* in any of the American workmen. Ours in England, are apt to be very *obstinate*, especially if getting a little old. They do not like to be taught any thing. They say and they think, that what their fathers did was best. To tell them, that it is your affair, and not *theirs*, is nothing. To tell them, that the loss, if any will fall upon you and not upon *them* has very little weight. They argue, that, they being the real *doers*, ought to be the best judges of the *mode of doing*. And, indeed, in *most cases* they are, and go about their work with wonderful skill and judgment. But, then, it is difficult to induce them cordially to do any thing *new* or any old thing in a *new way*; and the abler they are as workmen, the more untractable they are, and the more difficult to be persuaded, that any one knows any thing, relating to farming affairs, better than they do. It was this difficulty that made me resort to the employment of young women in the most important part of my farming, the providing of immense quantities of cattle food. But, I do not find this difficulty here, where no workmen are obstinate, and where, too, all one's neighbours *rejoice at one's success*, which is by no means the case amongst the farmers in England.

Having now given instructions relative to the business of *transplanting* of the Ruta Baga, let us see, whether it be not preferable to either the *ridge-sowing* method, or to the *broad-cast* method.

In the first place, when the seed is sown on

the ground where the plants are to come to perfection, the ground must be prepared *early in June* at the latest; but, in the transplanting method, this work may be put off, if need be, until *early in August*. However, the best time for transplanting is about the 26th July, and this gives a month for preparation of land, more than is allowed in the sowing methods. This, of itself, is a great matter; but, there are others of far greater importance.

This transplanted crop may follow another crop *on the same land*. Early cabbages will leave and be away, early peas will be ripe and off, nay, even wheat, and all grain, except buck-wheat, may be succeeded by Ruta Baga transplanted. I had crops to succeed potatoes, kidney beans, white peas, onions, and even Indian corn, gathered to eat green, and the reader will please to bear in mind, that I did not sow, or plant, any of my first crops, just mentioned, until the month of June. What might a man do, then, who is in a state to begin with his first crops as soon as he pleases! Who has his land all in order, and his manure ready to be applied!

Another great advantage of the transplanting method is, that it saves almost the whole of the *after culture*. There is no hoeing; no thinning of the plants; and not more than one ploughing between the ridges. This is a great consideration, and should always be thought of, when we are talking of the trouble of transplanting. The turnips which I have before had occasion to mention, had no after culture of any sort; for they soon spread the ground over with their leaves; and, indeed, after July, very few weeds made their appearance. The season for their coming up is passed; and, as every farmer well knows, if there be no weeds up at the end of July, very few will come that summer.

Another advantage of the transplanting method is, that you are sure that you have your right number of plants, and those regularly placed. For, in spite of all you can do in sowing, there will be deficiencies and irregularities. The seed may not come up in some places. The plants may, in some places, be destroyed in their infant state. They may, now and then, be cut off with the hoe. The best plants may sometimes be cut up and the inferior plants left to grow. And, in the broad-cast method, the irregularity and uncertainty must be obvious to every one. None of these injurious consequences can arise in the transplanting method. Here, when the work is once well done, the crop is certain, and all cares are at an end.

In taking my leave of this part of my treatise, I must observe, that it is useless, and, indeed, unjust, for any man to expect success, unless he attend to the thing himself, at least until he has made the matter perfectly familiar to his work-people. To neglect *any part* of the business is, in fact, to neglect the whole; just as much as neglecting to put up one of the sides of a building, is to neglect the whole building. Were it a matter of trifling moment, personal attention might be dispensed with; but, as I shall, I think, clearly show, that it is a matter of very great moment to every farmer. The object is, not merely to get roots, but to get them of a large size; for, as I shall show, there is an amazing difference in this. And, large roots are not to

be gotten without care, which by the by, costs nothing. Besides, the care bestowed in obtaining this crop, removes all the million of cares and vexations of the winter and spring months, when bleedings everlastingly din the farmer almost out of his senses, and make him ready to knock the brains out of the clamorous flock, when he ought to feel pleasure in the filling of their bellies.

Having now done with the different modes of *cropping* the ground with Ruta Baga, I will, as I have already proposed, speak about the *preparation of the land generally*; and in doing this, I shall suppose the land to have borne a good crop of wheat the preceding year, and of course, to be in *good heart*, as we call it in England.

I would plough this ground in the fall into ridges four feet asunder. The ploughing should be very deep, and the ridges well laid up. In this situation it would, by the successive frosts and thaws, be shaken and broken as fine as powder by March or April. In April it should be turned back; always ploughing deep. A crop of weeds would be well set upon it by the first of June, when they should be smothered by another turning back. Then, about the third week in June, I would carry in my manure, and fling it along in the trenches or furrows. After this I would follow the turning back for the sowing, as has been before directed. Now, here are four ploughings. And what is the cost of these ploughings? My man, a black man, a native of this island, ploughs with his pair of oxen, and no driver, *an acre and a half a day*, and his oxen keep their flesh extremely well upon the refuse of the Ruta Baga which I send to market. What is the cost then? And, what a fine state the ground is thus brought into! A very different thing indeed is it to plough hard ground from what it is to plough ground in this fine broken state. Besides, every previous ploughing, especially deep ploughing, is equal to a seventh part of an ordinary coat of manure.

In the broad-cast method, I would give the same number of previous ploughings, and at the same seasons of the year. I would spread the manure over the ground just before I ploughed it for sowing. Then, when I ploughed for the sowing, I would, if I had only one pair of oxen, plough about half an acre, harrow the ground, sow it immediately, and roll it with a light roller, which a little horse might draw, in order to *press the earth* about the seeds and *cover* them too. There need be no harrowing after sowing. We never do it in England. The roller does all very completely, and the sowing upon the fresh earth will under any sun, furnish the moisture sufficient. I once sowed on ridges, with a *Bennet's* drill, and neither harrowed nor rolled, nor used any means at all of covering the seed; and yet I had plenty of plants, and a very fine crop of turnips. I sowed a piece of white turnips, broad east at Hyde Park last summer, on the 11th of August, which did very well, though neither harrowed nor rolled after being sown. But in both these cases, there came rain directly after the sowing, which battered down the seeds; and which rain, indeed, it was, which prevented the rolling; for that cannot take place when the ground is wet; because, then, the earth will adhere to the roller, which will go on growing in size like a rolling snow ball. To harrow after

the sowing, is sure to do mischief. We always bury seeds *too deep*; and, in the operation of harrowing, more than half the seeds of turnips must be destroyed or rendered useless. If a seed lies beyond the proper depth, it will either remain in a quiescent state, until some movement of the earth bring it up to the distance from the surface which will make it vegetate, or, it will vegetate, and come up later than the rest of the plants. It will be feeblcr also; and it will never be equal to a plant which has come from a seed near the surface.

Before I proceed further, it may not be amiss to say something more respecting the *burying* of seed, though it may be here rather out of place. Seeds buried below their proper depth, do not *come up*; but, many of them are near enough to the surface, sometimes to *vegetate*, without coming up; and then they die. This is the case, in many instances, with more than one half of the seed that is sown. But, if seeds be buried so deep, that they do not even vegetate, then they do not die; and this is one cause, though not the only cause, of our wondering to see weeds come up, where we are sure that no seeds have fallen for many years. At every digging, or every ploughing, more or less of the seeds, that have formerly been buried, come up near the surface; and then they vegetate. I have seen many instances in proof of this fact; but the particular instance, on which I found the positiveness of my assertion, was one of *parsnips* seed. It is a very delicate seed. It will, if beat out, keep only one year. I had a row of fine seed parsnips in my garden, many of the seeds of which fell in the gathering. The ground was dug in the fall, and, when I saw it full of parsnips in the spring, I only regarded this as a proof that parsnips might be sown in the fall, though I have since proved, that this is a very bad practice. The ground was dug again, and again, for several successive years, and there was always a crop of parsnips without a grain of seed ever having been sown on it. But, lest any one should take it into his head that this is a most delightful way of saving the trouble of sowing, I ought to state, that the parsnips coming thus at random, gave me a great deal more labour than the same crop would have given me in the regular way of sowing. Besides, the fall is not the time to sow, as my big and white parsnips, now selling in the New York market, may clearly show; seeing that *they* were sown in *June*! And yet, people are flocking to the *Western Countries* in search of rich land, while thousands of acres of such land as I occupy are lying waste in Long Island, within three hours' drive of the all-consuming and incessantly increasing city of New York!

I have now spoken of the preparation of the land for the reception of seeds. As to the preparation in the case of *transplantation*, it might be just the same as for the sowing on ridges. But, there might, in this case, be one more previous ploughing, always taking care to plough in *dry weather*, which is an observation I ought to have made before.

But, why should not the plants, in this case, *succeed some other good crop*, as mentioned before? I sowed some early peas, brought from England, on the 2d of June, I harvested them, quite ripe and hard, on the 31st of July; and I

had very fine Ruta Baga, some weighing six pounds each, after the peas. How little is known of the powers of this soil and climate! My potatoes were of the kidney sort, which, as every one knows, is not an early sort. They were planted on the 2d of June; and they were succeeded by a most abundant crop of Ruta Baga. And the manure for the peas and potatoes served for the Ruta Baga also. In surveying my crops and feeling grateful to the kind earth and the glorious sun that produce these, to me, most delightful objects, how often have I turned, with an aching heart, towards the ill-treated Englishmen, shut up in dungeons by remorseless tyrants, while not a word had been uttered in their defence by, and while they were receiving not one cheering visit or comforting word from, Sir Francis Burdett, who had been the great immediate cause of their incarceration!

As to the quantity and sort of manure to be used in general, it may be the same as for a sowing of rye, or of wheat. I should prefer ashes; but, my large crops in England were on yard dung, first thrown into a heap, and afterwards turned once or twice in the usual manner, as practised in England. At Hyde Park I had nothing but rakings up about the yard, barn, &c., as described before. What I should do, and what I shall do this year, is, to *make ashes* out of *dirt or earth*, of any sort, not very stony. Nothing is so easy as this especially in this fine climate. I see people go with their wagons five miles for *Soper's ashes*; that is to say, *spent* ashes, which they purchase at the landing place, (for they come to the island in vessels) at the rate of about five dollars for forty bushels. Add the expense of land carriage, and the forty bushels do not cost less than *ten dollars*. I am of opinion, that, by the burning of earth, as much manure may be got upon the land for *half a dollar*. I made an experiment last summer, which convinces me, that, if the spent ashes be received as a gift at *three miles* distance of land-carriage, they are not a gift worth accepting of. But, this experiment was upon a small scale; and, therefore, I will not now speak positively on the subject.

I am now preparing to make a perfect trial of these ashes. I have just ploughed up a piece of ground, in which, a few years ago, Indian corn was planted, and produced, as I am assured, only *stalks*; and those not more than *two feet high*. The ground has, every year since, borne a crop of weeds, rough grass, and briars, or brambles. The piece is about ten acres. I intend to have Indian corn in it; and my manure shall be made on the spot, and consist of nothing but *burnt earth*. If I have a decent crop of Indian corn on this land, so manured, it will, I think, puzzle my good neighbours to give a good reason for their *going five miles for spent ashes*.

Whether I succeed or not, I will give an account of my experiment. This I know, that I, in the year 1815, burnt ashes, in one heap to the amount of about two hundred English cart loads, each load holding about forty bushels. I should not suppose, that the burning cost me, more than five dollars; and there they were upon the spot, in the field, where they were used. As to their effect, I used them for transplanted Ruta Baga and Mangel Wurtzel, and they produced full as great an effect as the yard dung used in the same

land. This process of burning earth into ashes, without suffering the smoke to escape, during any part of the process, is a discovery of Irish origin. It was pointed out to me by Mr. William Gauntlett, of Winchester, late a commissary with the army in Spain. To this gentleman I also owe, England owes, and I hope America will owe, the best sort of hogs, that, I believe, are in the world. I was wholly unacquainted with Mr. Gauntlett, until the summer of 1815, when, happening to pass by my farm, he saw my hogs, cows, &c. and when he came to my house, he called, and told me that, he had observed, that I wanted only a good sort of hogs to make my stock complete. I thought, that I already had the finest in England; and I certainly had a very fine breed, the father of which, with legs not more than about six inches long, weighed, when he was killed, twenty seven score, according to our Hampshire mode of stating hog meat weight; or, five hundred and forty pounds. This breed has been fashioned by Mr. Woods, of Woodmancot, in Sussex, who has been, I believe, more than twenty years about it. I thought it perfection itself; but, I was obliged to confess, that Mr. Gauntlett's surpassed it.

Of the earth burning, I will give an account in my next part of this work. Nothing is easier of performance: and the materials are every where to be found.

I think, that I have now pretty clearly given an account of the modes of sowing and planting and cultivating the Ruta Baga, and of the preparation of the land. It remains for me to speak of the time and manner of harvesting, the quantity of the crop, and of the uses of, and the mode of applying the crop.

(To be continued.)

To the Farmers of the state of Maryland.

Friends and Fellow-Citizens—At a meeting of the Maryland Agricultural Society at Easton, in January last, the adequacy of its constitution to accomplish the important objects proposed by it, was questioned by many of its members. They were apprehensive that its operations would be too much confined to the neighbourhoods of its sessions, and that a very considerable number of those who are deeply interested in the profitable cultivation of the soil, would be excluded from those demonstrations which are necessary to remove prejudice and to convince the judgment. They thought that to give an extensive effect to those systems and improvements which the present condition of agriculture obviously appears to require, it was essential to bring them nearer to your farms, and to afford an opportunity to every land holder to partake in the promotion as well as in the knowledge of every measure by which her interests might be advanced. They believed, that by associating yourselves in your own counties, and comparing the results of your experience and observations, you would be enabled to communicate important information to the general society, and that receiving by its organs the testimony of useful experiments and discoveries, you might deliberate upon them and apply them to your mutual advantage. And they concluded, that in this

manner, a convenient correspondence and unity of action, beneficial to all, might be conveyed to every quarter of the state. The utility, therefore, of establishing auxiliary societies in the respective counties was proposed as a subject fit to be considered; and a committee was appointed to reflect upon it; and, if they should think it an advisable measure, they were authorised to propose corresponding alterations in the constitution of the general society, and also such a plan for the formation of country societies as should be deemed proper to be recommended to your attention.

This committee, accordingly, took the subject referred to them into their serious consideration; and at a meeting for the general society, held at Easton, on the ninth day of March, instant, a report was presented by the committee, declaring their opinion in favour of county societies, and of the usefulness of uniting their efforts with those of the general societies, and proposing for this purpose, several amendments to its constitution, and accompanying these with a form of association which they considered proper to be recommended to the citizens of the respective counties of the state. This report was read and discussed; and has obtained the sanction of the members who were present at the meeting; but in consideration of the material changes which it proposes to effect in the constitution of the general society, as originally established, it was thought respectful to defer the ultimate decision upon it until the meeting at Baltimore, on the first Wednesday of June: And to enable, not only the Members of the Society, but the Farmers of the several counties, to examine the nature of the scheme, and to form their judgment deliberately upon it, a committee was appointed to cause the report to be published and disseminated, and to call the attention of the people, whom it particularly concerns, to its provisions, in a suitable address.

In performing this office, it cannot be necessary to inform you, that the state of Agriculture among us, is in general, extremely defective. Every owner, every tenant, is convinced that by a different system, and by better culture, his lands would be more productive and his labour more successful, and, consequently, that his welfare and contentment would be enhanced in a higher degree. But it is of great importance to convince you, that means are believed to exist, by which your fields may be fertilized and rendered profitable, and by which, therefore, the value of our estates, and the comforts of our lives, may be greatly increased: and that these means, in a greater or smaller proportion, are in your own power, though too little known. The thing desired is, to ascertain where these means are deposited, and to understand in what manner to apply them. Communication with each other has frequently contributed to the discovery of valuable facts, and afforded to many hearers the serviceable experience of a few ingenious men; and new ideas received from a single individual will often excite reflections which may lead to useful inventions. Communications, even in a transient manner, and in occasional interviews, have sometimes been the cause of fortunate experiments and beneficial changes; but associa-

tions, professedly formed for the advancement of any science must necessarily yield much greater and more permanent effects; and if that science be one in the promotion of which, every member will believe the best of his interest, and the sources of his independence to be profoundly involved, he will feel himself drawn to it by the strongest considerations. The indulgence of curiosity, the desire of distinction, and the gratification of meeting his associates upon equal terms though these are all commendable inducements, will be the weakest motives for his attention; the increase of his wealth, the greater ability of educating his children, the comforts and advancement of his family, and, if that science concern the improvement of his country, the sentiment of patriotism will inspire him with ardour; and the resources of his mind, and the exertions of his labour, will all be employed in perfecting the objects of the association. Agriculture is undoubtedly that science: though it is a common profession, little study appears to be afforded to it; and yet there is none which merits more. Skill in this pursuit, may, by slow, but sure degrees, convert a barren field into a fertile plain, and still more augment the value of the finest plantations. No science spreads her blessings with more liberal hands; he who cultivates with knowledge and understanding, reaps, it is true, the first advantages of agriculture; but he is not the only individual who enjoys them; they are extended to the uses of the whole community. She supplies the inhabitants with food and raiment; she satisfies all their necessities and administers to all their luxuries; commerce, manufactures, all arts and trades, all callings and professions, are dependent upon her productions; the body of the people are interested in supporting her cause, for they are all partakers of her bounties.

You, fellow-citizens whom we address, are more especially engaged in this support; and we cannot doubt your willingness to adopt any expedient which may tend to amplify important results. It is believed, that the formation of societies in your respective counties, will bring forth the most favourable consequences among yourselves; and that, by mutually communicating and receiving the fruits of your experience, and the improvements of your systems, through the medium of the general society, composed of members from among you all, the advantages which may flow from the union of talents and exertions, will be realized in every district of the country. It is under this expectation, that the amendments to the present constitution of the general society, have been proposed, and the plan of a government for an agricultural society, in the respective counties, recommended. They are published with this address, and submitted to your examination. If approved of, they cannot be carried into operation at too early a period. The spirit of agriculture has too long languished; let it be revived and fairly encouraged; it will stimulate the industry and faculties of every individual, and meliorate his situation in life. It will multiply the objects of labour, and afford beneficial employment to many who are losing the inducements to remain with us. It will improve and adorn the country, and increase its population; and, by these united effects,

the wealth and character of the state will entitle her to an agreeable comparison with her sisters.

NS. HAMMOND,
EDWD. LLOYD,
TENCH TILGHMAN,
ROBERT MOORE,
EDWD. N. HAMBLETON.

Easton, 30th March, 1819.

From the Practical American Gardener.

For the month of May.

Sowing Melons and Cucumbers in the open ground.

From the first to the tenth of this month, will be a suitable time, to plant a general crop of melons and cucumbers in the open ground; from a week to a month earlier, to the southward, and about the middle of the month, in the eastern states. A general remark is that musk and water melons, cucumbers, pumpkins, squashes, gourds, and all their varieties, may be sown at the time of planting Indian corn; but for garden culture, an earlier time will answer.

For the varieties of the musk and cantalope melons, prepare a piece of rich, sandy ground, well exposed to the sun, manure it, and give it a good digging, mark it out into squares six feet every way; at the angle of every square dig a hole twelve inches deep, and eighteen over, into which put seven or eight inches deep of old hot-bed dung, or very rotten manure; put thereon about four inches of earth, and mix the dung and earth well with the spade, then draw the remainder of the earth over the mixture, so as to form a round hill about a foot broad at top.

When your hills are all prepared as above, plant in each, towards the centre, eight or nine grains of melon or cucumber seed each at some distance from the other; for if planted near each other, the melons will be injured, the seeds should be set about two inches from one another, and covered about half an inch deep.

When the plants are up, they may be pruned or not, at pleasure. As the flies will be very troublesome they must be killed as many as possible, three times a day, and where they have destroyed any of the plants, fresh seed may be put in their places.

Squashes.

Squashes of every kind, may be cultivated as cucumbers, and sown at the same time, at the distance of eight or nine feet every way.

Water Melons.

In order to have water melons in perfection, fix upon a piece of very light, rich, sandy soil; manage it in every respect, as directed for cucumbers and melons; let the hills be distant nine or ten feet every way.

Pumpkins and Gourds.

Pumpkins will require to be ten feet distance from hill to hill, two or three plants in each; they will grow freely and in any dry and tolerable rich ground, and should be sown, at the time melons and cucumbers are, in the open ground, and kept free from weeds.

The ornamental kinds may be sown, where they can be trained to trellises.

Where melons, cucumbers, squashes, pump-

kins, &c. are to be cultivated on a large and extensive scale, the ground may be prepared with a plough and afterwards ploughed and harrowed between the plants, until they begin to run, when the hoe must be used.

Sweet Potatoes.

The sweet potato requires a very light, sandy, and tolerably rich soil, to bring it to perfection. The time to plant, in the middle states, is from the first to the tenth of May. The ground being well pulverised by ploughing, harrowing, &c. is afterwards laid out in squares of four or five feet each, and at the intersections of the furrows, hills are made, in the manner directed for cucumbers, &c. into each of these one or two good sets are planted, and covered about an inch and a half deep; as they advance in growth, the hills are enlarged, by cross ploughing the ground, harrow it with a very narrow harrow, and then round the hills with a hoe.—Constantly keep them clean from weeds, and the frequent enlargement of the hills will increase the size and number of the roots. In gardens, the work may be performed with a hoe.

Indian Corn.

Procure some of the early corn, as directed in page 51; it may now be planted in the open ground and treated in the manner of common crops, planting it at the distance of three feet every way. This is designed solely for gardens, as this sort does not grow more than six feet in height.

Early Cauliflowers.

Early cauliflower plants, as they advance in growth, should have the earth drawn up about their stems, and in dry weather, be occasionally watered.

Towards the latter end of the month, the plants will begin to show their flowers, when they should frequently be looked over, and as they advance in flower, let some of the leaves be broken down over them, to protect them from the sun and wet, as also to preserve them in their natural colour, firmness and beauty.

Planting Cauliflowers.

The plants from the late spring sowings should now be planted out. In October, you may expect fine heads from these.

Sowing Cauliflower Seed.

You may now sow cauliflower seed for a late crop. The plants from this sowing, which do not produce heads before November, may be then taken up, and managed as directed in that month, by which means they will continue to produce fine flowers all winter.

Cabbages

Draw earth about the stem of the early cabbages. The earliest, towards the middle or latter part of this month, will begin to form their heads; when they may be greatly forwarded by tying their leaves together, with bass, or shreds of Russian mats; gather the leaves up regularly, but do not bind them too close; only treat a few of the earliest of them in this manner, the remainder will come on and be better without this.

Continue to plant out your spring cabbage plants, for autumn and winter. Plant, also, at this time, a full crop of red pickling cabbage and savoy.

Let all be planted out, if possible, in moist or

cloudy weather, and immediately after, give each a little water, unless the ground be fully saturated.

Sow now, in open borders, some early York sugar loaf, &c. for summer and autumn use; likewise savoy, large drum-heads, flat Dutch, &c. and red pickling cabbage, for autumn and winter. Transplant your seedlings, watering them immediately, and shade them for a few days.

Borecole.

You may now sow a principal crop of green and red curled Borecole, for autumn, winter and spring use.

Towards the end of the month, those sown in April, should be planted out into beds of rich sandy soil, as directed for cabbages, at three feet distance every way, and kept clean from weeds. Those intended for winter use, should never be planted in a rich soil, as they would not be able to bear the frost so well, as if growing in a gravelly soil.

(To be continued.)

MISCELLANY.

IMPROVED PATENT FAN.

To the Editor of the American Farmer.

SIR, I had the pleasure, on my arrival in town this morning, of receiving your note, requesting a description of my improved Fan, for your agricultural paper, and hasten to comply with the same.

"The Fan is double blasted; after the wheat passes through the upper blast, and upper riddle, (nearly as in the old method) it descends again into a second riddle and second blast, unconnected with the first; it then runs into the sifting range, through which it passes into a fine sieve, which lets all small seeds, &c. out underneath. The clean wheat runs out in front, while the sifting-range separates the garlic and every thing larger than wheat, and throws it out at one side of the Fan. The two riddles, sifting-range, and sieve are kept in motion by means of a crank on the end of the axletree, and the whole machinery put in motion by simply turning the handle of the fan, which is much easier than any other now in use. For large establishments the dimensions of the Fan can be increased, and also the force of air."

In the above description I have to apologise for the want of technical accuracy; not having my patent with me in town, it is not so perfectly described as I could wish; but those who may want Fans of this description, will, no doubt, be better satisfied by seeing one in operation.

I beg leave to add, that, from repeated experiments made with the small Fan, now exhibited as a model, on Bowley's wharf, thirty bushels of wheat can be cleaned from the chaff every hour, and the power of the machine can be augmented to suit the wish of purchasers. In the cleaning of barley, oats, rye, &c. the sifting range used for wheat is drawn out, and the wheat riddles changed for coarser ones, which go with the Fans. Flaxseed and cloverseed are cleaned the same as wheat.

Brought up a practical farmer, I have had to

lament, in common with others, the difficulty of separating garlic and other injurious seeds from wheat, and the incompetency of the machines, which I had an opportunity of trying, to effect that object. This led me to reflection and experiment, to find a remedy, and the *Improved Patent Fan*, which a few days ago I offered to the notice of the farmers and millers, through the medium of the newspapers, is the result of my labours; and I flatter myself that it will be found, on impartial examination and trial, to be an important acquisition to the agricultural and milling interests.

The mere act of separating the chaff, can be performed by *winnowing*, the mode practised by our ancestors long before the invention of Fans, and still in use by the great majority of the farmers of every country; but the separation of garlic and other noxious seeds from wheat, was the object I had in view: if I have succeeded in this, (as I confidently believe I have) I have no doubt but a generous and enlightened public will patronise my efforts, regardless of the attacks of interested competitors.

The gentlemen, members of the Agricultural Society of Maryland, are respectfully invited to examine and prove my Fan, and their patronage is solicited in proportion to its utility.

I am, sir, very respectfully, your obed't serv't,
THOMAS WILSON.

* * Orders sent to the patentee, Gunpowder, Baltimore County, or left at No. 6, Market Street, (post paid) will be duly attended to.

FOR THE AMERICAN FARMER.

DOMESTIC MANUFACTURES.

No. 2.

Many circumstances, which in times past, may have induced some persons honestly to question the expediency of encouraging manufactures in the United States, no longer exist. During a great portion of the time that elapsed between the year 1783, in which our political independence was established, and the year 1815, in which the fertile plains of Waterloo blushed at the shameful slaughter of men, the agricultural productions of our country, in any amount that could be exported, found a good market in Europe; and our enterprising merchants had many tons of shipping employed in what was called the *foreign carrying trade*; transporting goods from one European port to another at a great profit. Our agricultural and commercial labours were extraordinary, far above the quantity proportionate to the country in a peaceful state of the world. They supplied the deficiency of the same kinds of labour abroad, where millions of persons were devoted to the art of war; where the ploughshare and the pruning hook were beaten into the sword; and where cultivators, merchants, sailors, and all classes of people, were required to act the part of soldiers. Under such circumstances, our income was consequently extraordinary; the balance of trade was greatly in our favour; our planters, farmers, and merchants grew rich; our cities and towns flourished and increased rapidly; and the nation seemed to rise on the wings of the eagle.

But those *golden days* are gone; and there is

little prospect of their returning. Bonaparte, the son of Mars, is on the rock of St. Helena, where he is likely to be kept. Instead of the arts of war, Europeans may now learn and practice the arts of peace. Instead of paying American farmers and merchants enormous prices for the necessities of life, they will raise an abundance for themselves. Every nation will claim and exercise its rightful privilege and reap the consequent advantages. Thus they will derive the profit which formerly came to our coffers.

In the meantime our population has doubled; and, on that account, and on account of the large luxurious desires, which commercial prosperity has fostered, our consumption has become very great. The balance of trade is against us; our commerce is curtailed; the product of our labour is proportionably less; and, as the prices of our tobacco, cotton, flour, &c. are coming down, it will continue to diminish. We have nothing to pay for our importations. All the specie is gone, or going from the country, and we have no power to retain it. If unusual efforts, and ruinous sacrifices be made to fill the empty vaults of some of our most respectable banks; the advantages can be but momentary. The money is received with one hand and paid out with the other. The western gales quickly waft it over the waters and "far away." Paper money is a little more beautiful, but not much more useful than the rags of which it is made, unless it be made a legal tender, or unless there be specie enough deposited to keep it in circulation. Business is dull; trade is stagnated; merchants are failing; and farmers are not thriving. Our navy and army are established and must be supported, and all our civil officers must be paid. Under these circumstances, who cannot see, who will not acknowledge the utility and the necessity of some productive labour to relieve our embarrassments? What is the desideratum? Our agricultural and commercial products are insufficient; we have no mines of silver and gold. The only means of relief and comfort, in addition to a moderation of our extravagance, is the exercise of manufacturing powers.

OPIFICI AMICUS.

To the Editor of the American Farmer.

SIR, The establishment of a *Seed Shop*, by a Mr. Casey, from abroad, I was happy to see, and ready to encourage in my small way. I thought it however a little singular, that Mr. Casey should propose to publish a *Gardener's Hive*, for a soil and climate to which he was an entire stranger; and, in looking at the book, can find a solution of that singularity, only in the supposition that Mr. Casey thinks he has come to seek his fortune in a community, made up of the grossest ignorance and credulity, and who were ready to dwell on any thing foreign.

The price of Mr. Casey's book, as well as its contents, are truly congenial with such a supposition: *one dollar* for twenty-eight pages of loose print!

It consists of two parts, a Rotation Table and a Diary.

The Table is as truly ridiculous, as it is original; so much so, as to secure it against the pos-

sibility of doing mischief in any country. Three successive grain drops to begin—(the modest land butcher never dreamt of more than two) followed by grass—Hay, perhaps he meant—hay and grass. Could you soil one fifth of your farm? or would you pasture your grass one year and expect to make hay of it the next? The Table is, in fact, a complete anomaly, setting totally at defiance every principle of modern science, and excluding every product which all other writers are labouring to introduce, viz. shaded crops.

The Diary, or Calendar, is fully of a piece with the Table; the merest trash; full of errors; sickening to look over. It must suffice with regard to it, to remark the modesty of an author, just arrived in a country, to undertake to instruct its citizens in the *periods* of its vegetation; and the *treatment* adapted to it! Would it not have been more comely for Mr. Casey, to have noted and compared them with those of his own country, before he assumed the attitude of the *Professor*; to have learnt, at least, a little for himself, before he ventured to instruct the people of this country.

Such presumption needs the restraint, if not the chastisement of the press, since the price, character and circumstances of the work, strongly indicate a disposition to make money by practicing on the public, under, I presume, the self-dubbed title of *Professor*.

TOE TO TOE.

National Character.

Elevated or depressed by the measures of particular States—Improvements going on in the State of New York—Public spirit of the State of Virginia—Agricultural resources of New York and of England, compared.

Enlightened Patriotism teaches us to consider each state in the republic, as nearly and equally related to every other; and that whatever may be their peculiar differences in climate, soil, productions, or courses of trade, yet all serve to constitute one kindred family, united by equal rights. Pushing the analogy, it must be allowed, that as family character depends on the deportment of each member, as its reputation may be elevated by the genius and honour of one, and depressed by the ignorance and vice of another, so a nation's reputation, in the eye of the foreigner, may be glorified or degraded by the policy and the principles which characterise the administrations of the different states.

Be it the duty, therefore, of each state administration, to bear in mind the extent of its responsibility to the nation at large; each one has in its keeping a portion of that renown which is common *property*—each one has received its *talent* and must render its account. Without intending to make invidious comparisons, we are bound to acknowledge, that, as *Americans*, we owe our special acknowledgements to the enterprising state of New York, whose magnificent schemes of internal improvement, have already attracted upon our youthful country, the eyes and the admiration of the old world.

Public works are there progressing on a scale which has been hitherto considered beyond the resources of the oldest nations of Europe. The Hudson, in the east, is extending her arm to

shake hands with lake Huron, in the west; and the benefits which await the agricultural and the commercial interests, throughout this whole line of inter-communication, puts all calculation at defiance. What then do we not owe to the genius which has conceived, and the patriotism which is found adequate to the execution of such splendid undertakings?

Let those in whose bosoms there yet lingers any fear of the animosity or the power of Europe, compare the resources and capacity of a single link in our chain of confederacy, with the power of England, one of the oldest and most renowned members of the "holy league," of Europe. If one Hercules in his cradle can thus measure strength with the Lion in his manhood, what have twenty to apprehend? The items of this comparison we derive from an eloquent pamphlet, published in New York, on the "Expediency of establishing a board of Agriculture," for which laudable purpose the legislature of that state has since appropriated a donation.

Virginia, the "ancient dominion," following the example of New York, has begun the work of internal improvement in a spirit of liberality and intelligence which becomes her high character. May the glorious mania spread throughout our country: thus shall we soon become really and truly *independent*.

"What limits are, hereafter, to bound our agricultural enterprise and greatness, we shall not venture to say; but let us for a moment indulge in *comparison*, the only method to ascertain the magnitude of objects. Let us cast our eyes over the state of New York, and then take the map of England in one hand and the picture of her resources in the other, and ponder on the extent of her agricultural riches. England is a country possessing less natural advantages than our own state. Including Wales, Great Britain contains 49,000 square miles, making not far from 31,000,000 of acres. New York contains 46,000 square miles, making over 29,000,000 of acres. England has more waste lands than the state of New York. Her mountains are sterile and barren; her bogs, heaths, and chalky lands, as well as her large tracts of loose spongy ground are not known as characteristics in our soil. Her climate possesses few or no advantages over our own. The articles of consumption congenial to our soil, will maintain a competition with hers, and our fruit is far better. All kinds of domestic animals, to whose growth England assigns an important part of her wealth, subsist as well here as in Great Britain.* We must also recollect, that the parks, commons, and pleasure grounds, take up a large territory in England; that her tenures are burdensome, her taxes monstrous, her exports shackled, her cultivators oppressed, and no small portion of her population composed of nobility, gentlemen, professional men, soldiers, placemen, sinecurists, slaves, servants, and paupers. From the most rational calculations, the cultivators of the soil fall consi-

* The whole number of sheep in this state was estimated at 1,410,044, four or five years since. Neat cattle, 863,298. Horses, 527,570—aggregate, 2,800,952. The number now is much larger.—*Stafford's Gaz.* p. 51.

derably short of two millions in England and Wales.† Yet under all these circumstances, what has England done as an agricultural nation?

An eminent English writer, equally distinguished for his candour and abilities,‡ has estimated that the wealth which is annually created by the cultivation of the soil of Great Britain and Ireland, amounts to no less than 216,817,625*l.* He gives Ireland two-fifths of this amount, which, when deducted from the whole estimate, leaves an annual creation of wealth from the soil of England and Wales alone, the enormous amount of 130,090,574*l.* or \$575,580,328. Here then are *six hundred millions of dollars*, annually wrung from the British soil, possessing inferior attributes and properties to the soil of New York! The able book, entitled "Britain independent of Commerce," estimates the annual creation of property in England, by means of agriculture, to be 120,000,000*l.*; but the estimates of Mr. Colquhoun are obtained from more accurate sources and more correct. Even Ireland gives an annual creation of wealth from the cultivation of her soil to the amount of \$385,455,213, if we take the calculations of the above author as a data. England and Ireland together, produce an annual wealth from the cultivation of the soil of the amount of \$961,136,541. And yet England did little or nothing for her agriculture and rural economy until the time of Queen Elizabeth; and in fact, never brought this branch of industry to any general perfection, until the establishment of her *Board of Agriculture*. We are not putting the present agricultural resources of the state of New York by the side of those of Great Britain. We are only suggesting, by way of comparison, what New York can do at a future period, and the necessity of commencing her career of improvement on a great scale, at the present moment. We must recollect that while the population of England does not double once in 100 years, ours doubles once in 20 years. But a few years more, and we shall have as much effective force employed in the cultivation of our lands as England now has, and the fruits of our labour will not be devoured by tax-gatherers—excise officers—a profligate idle nobility—armies—subsidies—sinecurists—placemen—servants—and paupers; but they will go to enrich a great and enterprising community. With all our pride and love of national greatness, we cannot realize the resources of our country or of our state. They unfold unseen, and astonish us, at times, with their wonderful developement. The tonnage of New York is now far greater than was that of England at the time of her defeating the Spanish armada, when Spain was mistress of the ocean—and even greater than that of England one century ago. *If a state would be great, she*

† From the result of the population act, it appears, that of the 8,300,000 persons which England then contained, only 1,524,000 were chiefly employed in agriculture; so that of the twelve millions which Great Britain, including Wales, is supposed to contain now, there cannot be computed to be more than *one-sixth* part employed in cultivating the earth.—*Vide Britain independent of Commerce*.

‡ Colquhoun's *Wealth, Power, and Resources of the British Empire*.

must elevate her thoughts to the standard of greatness, and let her efforts comport with her views and conceptions.

The Virginia Legislature adjourned on Saturday, the 9th instant.

They have loaned to the Dismal Swamp Canal Company, 50,000 dollars.

The Swift Run Gap Turnpike Company, 16,000 dollars.

They have subscribed 50,000 dollars to the Richmond Dock.

They have appropriated 23,000 dollars to the finishing of the Public Square and Capitol.

They have, besides, contributed to several turnpikes, says the Inquirer, taken some necessary preliminary steps towards the Western Navigation—a road from the Appomattox to the Roanoke—In fact, it is impossible to calculate the patience with which they have encountered the labour of revising the laws, or the public works which they have assisted, without a deep sentiment of gratitude and respect.

BALTIMORE:

FRIDAY, APRIL 23, 1819.

THE BELT SAW.

Seeing a description of the Belt Saw, going the rounds of the newspapers, said to have been "newly invented" by Mr. Adam Stewart, we thought it might serve the cause of truth and justice, to make the following translation from a French work, entitled, "Archives des Découvertes et des Inventions Nouvelles," [of discoveries and new inventions] made in 1815. It will be seen, that the credit of the discovery is given to Monsieur Touroude. The translation was submitted in manuscript, to Mr. Stewart, who promised to furnish us with a statement to show the priority of his invention, but it has not been received. He says, however, that he lodged his specification in the patent office, prior to the year 1815, and thinks, that the idea was carried over to France by a French officer, to whom he showed his invention, in a garret in London, before his coming to this country. The only thing at stake is, the credit of the discovery. The question rests between Mr. Stewart, an English, and Mons. Touroude, a French gentleman. Our office is impartiality; our object truth.

THE SAW WITHOUT AN END, OF M. TOUROUDE.

This machine is principally composed of a blade plate of a saw, where the two ends are united; or, rather, it is without end. It embraces two circular surfaces (*plateaux*) turning upon their axes, and placed at a distance greater or less, according to the length of the saw.

These surfaces are mounted upon a frame in such a manner, that, in giving them a rotary motion, in the same direction, the saw plate is made to cut the wood, which is fixed upon a carriage in the ordinary manner.

A weight, proportioned to the hardness and thickness of the wood to be cut, causes that to advance against the part of the saw which forms

a right line tangent to the two surfaces that it embraces, and which causes it to circulate by the friction.

The circular saw cuts the wood without interruption, as long as the surfaces which serve as movers are made to turn. It performs, according to M. Touroude, more work than an ordinary saw, which cuts only in descending, and ought not to be confounded with the circular saw called *fraises*.

M. Touroude has erected on the principle of the belt saw, a mill to cut wood after a certain measure which answered advantageously for cutting the thread [*les liteaux*] which composed the pipe of Archimedes' screw [*les lityau de la vis d'Archimede*]. This new mill cannot perhaps replace that of the old ones, but it can be usefully employed, in a number of circumstances to cut wood, and to give rise to a combination of new machines equally useful. (*Bulletin de la Societe d'Encouragement. Juillet, 1815.*)

Translated from the same work.

NEWLY INVENTED SAW—FOR CUTTING VENEERING.

A traveller gives the following description of this invention:

The inventor of these new saws is a Frenchman, named M. Brunot, a mechanic, established for a long time past in England, and who receives from Parliament an annual pension of 300 pounds sterling, as a recompense for the invention of different machines which are employed with much success in the ship yards at Portsmouth.

He has succeeded in sawing an inch thickness of mahogany into thirty slabs, by means of the circular saw, moved by a steam machine; but the medium work of these saws is about twelve slabs to the inch.

The only saw that I have seen in motion, was ten feet in diameter and worked with admirable precision. The wood to be cut was placed vertically against it, by means of a cog wheel which produced a progressive motion of about 3 inches per minute. This ingenious machine appeared to me perfectly adapted to its end. (*Extract from the British Library, March, 1815.*)

We have great pleasure in laying before our readers, the Address from the Agricultural Society of Maryland, at Easton. The zeal and intelligence it displays, is the best proof of that patriotic feeling and pride, which being once excited, will soon place degraded Maryland on a level with her eastern sisters in Agricultural economy and improvement.

In our next, we shall publish their constitution with the alterations proposed. We incline, however, to the opinion, that the eastern and western shore societies, would each be more efficient, if acting separately and independently of each other. They are too distant to act with rapidity and perfect concert; so imperfect, indeed, is the understanding and co-operation between them, that, as we are told, no official communication whatever has been made from the Baltimore Society, to that at Easton, neither do they know anything of any of its proceedings, except what

may have casually reached them through the newspapers. To be more certain of success, it is perhaps best, that these associations should consist of not too many members in the beginning; that they should reside within a comparatively limited circle, so that the interchange of sentiment should be easy and frequent; and, above all, the officers should enter into the business heartily and zealously.

A very remarkable thunder gust was experienced in New York on Friday night last. The gale commenced at about 10 A. M. and continued until 2 P. M. on Saturday; at which time the wind shifting to the northward, brought with it clouds of almost nocturnal darkness, obliging many to light candles for their dinner tables.—Then came on the thunder gust, for severity and duration never before equalled in that city. One or two vessels and several buildings were struck with lightning, but the damage done was by no means equal to what might have been rationally anticipated.

Cambridgeport Pigs.—Mr. Brigham, of Cambridgeport, has raised this year, four pigs, of one litter, which were one year and one day old when they were killed, and their weights were as follows:—

1	-	398	3	-	306
2	-	394	4	-	318

Total, 1470 lbs. wt.

From the accounts we have lately seen of the extraordinary weight of hogs killed in Boston, at one year old, it is manifest that this disposition to rapid growth and to take fat at an early age, and while growing, arises from some peculiarity in the breed. Satisfied of this, the Editor of the *American Farmer*, has taken measures to procure a male and female pig, with a view to the dissemination of the breed in Maryland.

Butter.—The following is given as an improved method of preventing the bitter taste which butter has at this period of the year, from cattle feeding on turnips, cabbages, leaves of trees, &c. Boil two ounces of salt petre in a quart of water, and put two or more spoonfulls, according to the quantity of milk, into a pail, before milking; if this is done constantly, it will prevent the taste of turnips, but it will not be effected if even once neglected. This has been proved by twenty year's experience, and if it does not succeed, the farmers may rest assured that the fault arises from the neglect of the dairy maid.

Indelible Ink.—The purple precipitate of Cassius, is recommended in the Italian Journals as an Indelible Ink, much superior to that of silver. That part of the linen on which is to be the writing, is first to be moistened with a solution of recently made muriate of tin, and when dry to be written on with a solution of gold, and then washed in water. The writing, which will become black, is not at all effected by washing and with great difficulty by other agents, and not before the cloth is destroyed.

Actual Prices of the following commodities at this time in the Baltimore Market.

TOBACCO—has improved within the last week—good Patuxent may be fairly quoted at 12 and \$14. Fourteen hogsheads are just up from Benedict; two of the best sold yesterday—one made by Mr. Cartwright, of very superior quality, for \$11-50—one, second or handsome quality, for \$12. Some Eastern shore dark Tobacco is offered at \$10, and such may be quoted at 9-50 to \$10. Two hogsheads of fine yellow wagon Tobacco from Elkridge, sold on Wednesday for \$17, but the average price may be stated from 15 to \$16.

CORN, white	58
yellow,	55
WHEAT, red,	\$1 30
white,	1 40 a 1 45
BARLEY, none in the market,	
CLOVER SEED, scarce,	\$14
PEAS,	1
BEANS, white,	2 50

It will be seen, that we have made a pretty free use of the Practical American Gardener; and it is our intention to copy more freely from it still. The publisher will have little cause to complain, we think, of our attracting the attention of the public to a work, that ought really to be possessed by every Farmer and Gardener in the country.

POETRY.

In his "*Loves of the Plants*," the fanciful Dr.

DARWIN, thus speaks of the beautiful little snow-white flower, *Anemone* which is just now in bloom.

ALL wan and shivering in the leafless glade
The sad *Anemone* reclined her head;
Grief on her cheeks had paled the roseate hue,
And her sweet eye-lids droop'd with pearly dew.
—"See from bright regions, borne on odorous
"gales,
"The Swallow, herald of the summer, sails;
"Breathe, gentle AIR! from cherub-lips impart
"Thy balmy influence to my anguished heart;
"Thou, whose soft voice calls forth the tender
"blooms,
"Whose pencil paints them and whose breath
"perfumes;
"O! chase the friend of Frost, with leaden mace,
"Who seals in death-like sleep my hapless race;
"Melt his hard heart, release his iron hand,
"And give my ivory petals to expand.
"So may each bud, that decks the brow of
"spring,
"Shed all its incense on thy wafting wing!"
To her fond prayer propitious Zephyr yields,
Sweeps on his sliding shell through azure fields,
O'er her fair mansion waves his whispering
wand,

And gives her ivory petals to expand;
Gives with new life her filial train to rise,
And hail with kindling smiles the genial skies.
So shines the Nymph in beauty's blushing pride,
When Zephyr wafts her deep calash aside:
Tears with rude kiss, her bosom's gaudy veil,
And flings the fluttering 'kerchief to the gale.
So bright, the folding canopy undrawn,
Of beaux and belles displays the glittering throng,
And soft airs fan them, as they roll along.

To Farmers and Gardeners.

My notification, dated New York, 29th of March, 1819, I beg leave to point out to gentlemen engaged in Agricultural and Horticultural pursuits. It being my desire to assist in giving as rapid a spread as possible to the cultivation of the valuable Root Crops and Green Crops, in this fine and fertile country. I have this day [13th April] sent off my servant, *James Hammerton*, to BALTIMORE, in order that gentlemen in that part of the country may have no difficulty in obtaining a supply of the most important articles of seed; such as the *Ruta Baga*, *Mangel Wurtzel*, *Turnips* of the finest sorts for the garden and for the field; cabbages of various sorts; *Luzerne*, *Sain Foin*, *Trefoil*, *White Clover*, *Cow Clover*, *Cole Seed*, or rape, and some other seeds. *Hammerton* will sell his seeds in the market place, at such spots as he will notify in his advertisements, upon his arrival at Baltimore. As the mode of cultivating the several plants is described in the *First and the Second Parts of my Year's residence*, *Hammerton* has some of those books for sale. He has also some of the *Third Part* as some gentlemen may wish the work complete. He has also some of my *English Grammar* for sale.

WM. COBBETT.

New York, 29th March, 1819.

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April 23.

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AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

VOL. I.

BALTIMORE, FRIDAY, APRIL 30, 1819.

NUM 5.

AGRICULTURE.

The RUTA BAGA or SWEDISH TURNIP.

FROM CORBETT'S YEAR'S RESIDENCE.

(Continued from No. 4, page 27.)

TIME AND MANNER OF HARVESTING.

This must depend, in some measure, upon the age of the turnips; for, some will have their full growth earlier than others; that is to say, those which are sown first, or transplanted first, will be ripe before those which are sown or transplanted latest. I have made ample experiments as to this matter; and I will, as in former cases, first relate *what I did*, and then give my opinion as to what *ought* to be done.

This was a concern in which I could have no knowledge last fall, never having seen any turnips harvested in America, and knowing, that as to American *frosts*, English experience was only likely to mislead; for, in England, we leave the roots standing in the ground all the winter, where we feed them off with sheep, which scoop them out to the very bottom; or we pull them as we want them, and bring them in to give to fattening oxen, to cows, or to hogs. I had a great opinion of the *hardiness* of the Ruta Baga, and was resolved to try it here, and I did try it upon too large a scale.

I began with a piece. A part of them were taken up on the 13th of December, after we had had some pretty hard frosts. The manner of doing the work was this: We took up the turnips merely by pulling them. The tops had been cut off and given to cattle before. It required a spade, however, just to loosen them along the ridge into which their tap-roots had descended very deeply. We dug holes, at convenient distances, of a square form, and about a foot deep. We put into each hole about fifty bushels of turnips, piling them up above the level of the surface of the land, in a sort of a pyramidal form. When the heap was made, we scattered over it a truss of rye-straw, and threw earth over the whole to a thickness of about a foot, taking care to point the covering at top, in order to keep out wet.

Thus was a small part of the piece put up. The 14th of December was a Sunday, a day that I can find no Gospel precept for devoting to the throwing away of the fruit of one's labours, and a day which I never will so devote again. However, I ought to have been earlier. On the Monday it rained. On the Monday night there came a sharp north-wester, with its usual companion,

at this season, that is to say, a sharp frost. Resolved to finish this piece on that day, I borrowed hands from my neighbours, who are always ready to assist one another. We had about two acres and a half to do; and it was necessary to employ *one half* of the hands to go before the *pullers* and loosen the turnips with a spade in the frosty ground. About ten o'clock, I saw that we should not finish, and there was every sign of a hard frost at night. In order, therefore, to expedite the work, I called in the aid of those efficient fellow labourers, a *pair of oxen*, which, with a good strong plough, going up on *one side* of each row of turnips, took away the earth close to the bulbs, left them bare on one side, and thus made it extremely easy to pull them up. We wanted spades no longer; all our hands were employed taking up the turnips; and our job, instead of being half done that day, was completed about two o'clock. Well and justly did Moses order, that the ox should not be muzzled while he was treading out the corn; for, surely, no animals are so useful, so docile, so gentle as these, while they require at our hands so little care and labour in return!

Now, it will be observed, that the turnips here spoken of, were put up when the ground and the turnips were frozen. Yet they have kept perfectly sound and good; and I am preparing to plant some of them for seed. I am now writing on the 10th of April. I send of these turnips to market, every week. The tops and tails and offal go to the pigs, to ewes and lambs, to a cow and working oxen, which all feed together upon this offal flung out about the barn-yard, or on the grass ground in the orchard; before they have done, they leave not a morsel. But, of *feeding*, I shall speak by and by.

The other crop of turnips, I mean those which were transplanted, *kept on growing luxuriantly until the very hard frosts came*, which I attribute to their being planted so late in the summer.

We were now got on to the 17th of December; and, I had *cabbages* to put up. Saturday, Sunday and Monday, the 21st, 22d and 23d, we had very hard frosts, as the reader, if he live on this island, will well remember. There came a *thaw* afterwards, and the transplanted turnips were put up like the others; but, this hard frost had pierced them too deeply, especially as they were in so tender and luxuriant a state. Many of these we find rotted near the neck; and upon the whole, they have suffered a loss of about *one half*. An acre, left to take their chance in the field, turned out, like most other games of hazard, a *total loss*. They were all rotted.

This loss arose wholly from my want of sufficient experience. I was anxious to neglect no necessary precaution; and I was fully impressed,

as I always am, with the advantages of being *early*. But, early in December, I lost a week at New York; and, though I worried my neighbours half to death to get at a knowledge of the time of the hard weather setting in, I could obtain no knowledge, on which I could rely, the several accounts being so different from each other. The general account was, that there would be no very hard weather until after Christmas. I shall know better another time! Major CARTWRIGHT says, in speaking of the tricks of the English Boroughmongers, at the "*glorious Revolution*," that they will never be able to play the *same tricks* again; for, that nations, like rational individuals, are not deceived twice in the same way.

Thus have I spoken of the *time and manner of harvesting*, as they took place with me. And, surely, the expense is a mere trifle. Two oxen and four men would harvest two acres in any clear day, in the latter end of November; and thus is this immense crop harvested and covered completely, for about two dollars and a half an acre. It is astonishing, that this is never done in England! For, though it is generally said, that the Ruta Baga will stand any weather, I know by experience, that it will not stand any weather. The winter of the year 1814, that is to say, the months of January and February, were very cold and a great deal of snow fell; and in a piece of twelve acres, I had, in the month of March, two thirds of the turnips *completely rotten*; and these were amongst the finest that I ever grew, many of them weighing twelve pounds each.

Besides, when taken up in *dry weather*, before the freezings and thawings begin, the dirt all falls off; and the bulbs are clean and nice to be given to the cattle or sheep in the stalls or yards. For, though we, in general, feed off these roots *upon the land* with sheep, we cannot, in deep land, always do it. The land is too *wet*; and particularly for ewes and lambs, which are, in such cases, brought into a piece of pasture land, or into a fold-yard, where the turnips are flung down to them in a *dirty* state, just carted from the field. And, again, the land is very much injured, and the labour augmented, by carting when the ground is a sort of mud-heap, or rather, pool. All these inconveniences would be avoided by harvesting in a dry day in November, if such a day should, by any accident be found in England; but, why not do the work in October, and sow wheat, at once, in the land? More on this after cropping another time.

In Long Island, and throughout the United States, where the weather is so fine in the fall; where every day, from the middle of October to the end of November, (except a rainy day about once in sixteen days) is as fair as the fairest May-

day in England, and where such a thing as a *water-furrow* in a field was never heard of; in such a soil as this, and under such a climate as this, there never can arise any difficulty in the way of the harvesting of turnips in the proper time. I should certainly do it in *November*; for, as we have seen, a *little frost* does not affect the bulbs at all. I would put them in when perfectly dry; make my heaps of about fifty bushels; and when the frost approached, I mean the *hard frosts*, I would cover with corn-stalks, or straw, or cedar boughs, as many of the heaps as I thought I should want in January and February; for, these coverings would so break the frost, as to enable me to open the heaps in those severe months. It is useless and inconvenient to take into barns, or out-houses, a very large quantity at a time. Besides, if left *uncovered*, the very hard frosts will do them harm. To be sure, this is easily prevented, in the barn, by throwing a little straw over the heap, but, being, by the means that I have pointed out, always kept ready in the field, to bring a larger quantity than is used in a *week*, or thereabouts, would be wholly *unnecessary*, besides being troublesome from the great space, which would thus be occupied.

It is a great advantage in the cultivation of this crop, that the *sowing*, or transplanting time comes *after* all the spring grain and the Indian corn are safe in the ground, and *before* the harvest of grain begins; and then again, in the fall, the taking up of the roots comes after the grain and corn and buckwheat harvests, and even after the sowing of the winter grain. In short, it seems to me, that the cultivation of this crop, in this country, comes, as it were, expressly to fill up the unemployed spaces of the farmer's time; but, if he prefer standing with his arms folded, during these spaces of time, and hearing his flock bleat themselves half to death in March and April, or have no flock, and scarcely any cattle or hogs, raise a few loads of yard-dung, and travel five miles for ashes and buy them dear at the end of the five miles; if he *prefer* these, then, certainly, I shall have written on this subject in vain.

QUANTITY OF CROP.

It is impossible for me to say, at present, what quantity of *Ruta Baga* may be grown on an acre of land in this island. My three acres of *ridged* turnips, sown on the 26th of June, were very unequal; but, upon one of the acres, there were *six hundred and forty bushels*; I mean *heaped bushels*; that is to say, an English statute bushel, heaped as long as the commodity will lie on. The transplanted turnips yielded about *four hundred bushels* to the acre: but, then observe, they were put in a full month too late. This year, I shall make a fair trial.

I have given an account of my raising, upon five acres in one field, and twelve acres in another field, one thousand three hundred and twenty bushels to an acre, throughout the seventeen acres. I have no doubt of equalling that quantity on this island, and that, too, upon some of its poorest and most exhausted land. They tell me, indeed, that the last summer was a *remarkably* fine summer; so they said at Botley, when I had my first prodigious crop of *Ruta Baga*. This

is the case in all the pursuits of life. The moment a man excels those, who ought to be able, and willing to do as well as he; that moment, others set to work to discover causes for his success other than those proceeding *from himself*. But, as I used to tell my neighbours at Botley, "You have had the *same* seasons that I have had. Nothing is so *impartial* as weather." As long as this sort of observation, or inquiry, proceeds from a spirit of *emulation*, it may be treated with great indulgence; but when it discovers a spirit of *envy*, it becomes detestable, and especially in affairs of agriculture, where the appeal is made to our common Parent, and where no man's success can be injurious to his neighbour, while it must be a benefit to his country, or the country in which the success takes place. I must, however, say, and I say it with feelings of great pleasure, as well as from a sense of justice, that I have observed in the American farmers *no envy* of the kind alluded to; but, on the contrary, the greatest *satisfaction*, at my success; and not the least backwardness, but great forwardness, to applaud and admire my mode of cultivating these crops. Not so in England, where the *farmers* (generally the most stupid as well as the most slavish and most churlish part of the nation) envy all who excel them, while they are too obstinate to profit from the example of those whom they envy. I say *generally*; for there are many most honourable exceptions; and it is amongst that class of men, that I have my dearest and most esteemed friends; men of knowledge, of experience, of integrity, and of public spirit, equal to that of the best of Englishmen in the worst times of oppression. I would not exchange the friendship of one of these men for that of all the Lords that ever were created, though there are some of very able and upright minds too.

Then, if I may be suffered to digress a little further here, there exists, in England, an institution which has caused a sort of *identity of agriculture with politics*. The Board of Agriculture, established by Pitt, for the purpose of sending *espies* about the country, under the guise of agricultural surveyors, in order to learn the cast of men's politics as well as the taxable capacities of their farms and property; this Board gives no premium or praise to any but "*loyal farmers*," who are, generally, the greatest fools. I, for my part, have never had any communication with it. It was always an object of ridicule and contempt with me; but, I know this to be the rule of that body, which is, in fact, only a little twig of the vast tree of corruption, which stunts and blights and blasts all that approaches its poisoned purview. This Board has for its Secretary, Mr. ARTHUR YOUNG, a man of great talents, *bribed* from his good principles, by this place of five hundred pounds a year. But, Mr. Young, though a most able man, is not always to be trusted. He is a bold asserter; and very few of his statements proceed upon actual experiments. And, as to what this Board has *published*, at the public expense, under the name of *Communications*, I defy the world to match it as a mass of illiterate, unintelligible, and useless trash. The only paper published by this Board, that I ever thought worth keeping, was an account of the produce from a *single cow*, communicated by Mr. CRAMP, the jail-keeper of the County of Sussex; which contained very interesting and wonderful facts,

properly authenticated, and stated in a clear manner.

ARTHUR YOUNG is blind, and never attends the Board. Indeed, sorrowful to relate, he is become a *religious fanatic*, and this in so desperate a degree, as to leave no hope of any possible cure. In the pride of our health, and strength of mind as well as of body, we little dream of the chances and changes of old age. Who can read the "*Travels in France, Spain, and Italy*," and reflect on the present state of the admirable writer's mind, without feeling some diffidence as to what may happen to himself!

LORD HARNWICKE, who is now the President of the Board, is a man, not exceeding my negro, either in experience or natural abilities. A parcel of court-sycophants are the Vice-Presidents. Their Committees and Correspondents are a set of Justices of the Peace, Nabobs become Country-Gentlemen, and Parsons of the worst description. And thus is this a mere political job; a channel for the squandering of some thousands a year of the people's money upon worthless men, who ought to be working in the fields, or mending "*His Majesty's High Ways*."

Happily, politics in this country, have nothing to do with agriculture; and here, therefore, I think I have a chance to be fairly heard. I should, indeed, have been heard in England; but, I really could never bring myself to do any thing tending to improve the estates of the oppressors of my country; and the same consideration now restrains me from communicating information, on the subject of timber trees, which would be of immense benefit to England; and which information I shall reserve, until their tyranny shall be at an end. Castlereagh, in the fulness of his stupidity, proposed, in order to find employment for "*the population*," as he insolently called the *people of England*, that he would set them to dig holes one day and fill them up the next. I could tell him what to *plant* in the holes, so as to benefit the country in an immense degree; but, like the human body, in some complaints, the nation would now be really injured by the communication of what, if it were in a healthy state, would do it good, and add to its strength and to all its means of exertion.

To return from this digression, I am afraid of *no bad seasons*. The *drought*, which is the great enemy to be dreaded in this country, I am quite prepared for. Give me ground that I can plough ten or twelve inches deep, and give me Indian corn spaces to plough in, and no sun can burn me up. I have mentioned Mr. *Curwen's* experiments before; or, rather *Tull's*. For, he it is, who made all the discoveries of this kind. Let any man, just to try, leave half a rod of ground *undug* from the month of May to that of October; and another half rod let him *dig* and *break fine* every ten or fifteen days. Then, whenever there has been fifteen or twenty days of good scorching sun, let him go and dig a hole in each. If he does not find the hard ground *dry as dust*, and the other *moist*, let him say that I know nothing about these matters. So erroneous is the common notion, that ploughing in *dry weather* *lets in the drought*!

Of course, proceeding upon this fact, which I state as the result of numerous experiments, I should, if visited with long droughts, give one or two additional ploughings between the crops

when growing. That is all; and, with this, in Long Island, I defy all droughts.

But, why need I insist upon this effect of ploughing in dry weather? Why need I insist on it in an Indian corn country? Who has not seen fields of Indian corn looking to-day, yellow and sickly, and in four days hence (the weather being dry all the while) looking green and flourishing, and this wonderful effect produced merely by the plough? Why, then, should not the same effect always proceed from the same cause? The deeper you plough the greater the effect however; for there is a greater body of earth to exhale from, and to receive back the tribute of the atmosphere. Mr. Curwen tells us of a piece of cattle cabbage, in a very dry time in July. They looked so *yellow and blue*, that he almost despaired of them. He sent in his ploughs; and a gentleman, who had seen them when the ploughs went in on the Monday, could scarcely believe his eyes when he saw them on the next Saturday, though it had continued dry all the week.

To perform these summer ploughings, in this island, is really nothing. I used one horse for the purpose last summer, and a very slight horse indeed. An ox is, however, better for this work; and this may be accomplished by the use of a collar and two traces, or by a single yoke and two traces. Tull recommends the latter, and I shall try it for Indian corn as well as for turnips.* Horses, if they are strong enough, are not so steady as oxen, which are more patient also, and with which you may send the plough-share down without any of the fretting and unequal pulling, or jerking, that you have to encounter with horses. And, as to the *slow pace* of the ox, it is the old story of the tortoise and the hare. If I had known in England, of the use of oxen, what I have been taught upon Long Island, I might have saved myself some hundreds of pounds a year. I ought to have followed Tull in this as in all other parts of his manner of cultivating land. But, in our country, it is difficult to get a ploughman to look at an ox. In this island, the thing is done so completely and so easily, that it was, to me, quite wonderful to behold. To see one of those Long Islanders going into the field or orchard, at sun-rise, with his yoke in his hand, call his oxen by name to come and put their necks under the yoke, drive them before him to his plough, just hitch a hook on to the ring of the yoke, and then, without any thing except a single chain and the yoke, with no reins, no halters, no traces, no bridle, no driver, set on to plough, and plough a good acre and a half in the day; to see this would make an English farmer stare; and well it might, when he looked back to the ceremonious and expensive business of keeping and managing a plough-team in England.

These are the means, which I would, and which I shall use, to protect my crops against the effects of a *dry season*. So that, as every one has the same means at his command, no one need be afraid of drought. It is a *bright* plough-share that is always wanted much more than showers. With this culture there is no fear of a crop; and though it amount to only five hundred bushels on an acre, what crop is *half* so valuable.

The *bulk of crop*, however, in the broadcast or random method, may be materially effected

by drought; for, in that case, the plough cannot come to supply the place of showers. The ground there, will be dry and keep dry in a dry time; as in the case of the supposed half rod of undug ground in the garden. The weeds, too, will come and help, by their roots, to suck the moisture out of the ground. As to the hand-hoeings, they may keep down weeds to be sure, and they raise a trifling portion of exhalation; but, it is a trifling indeed. Dry weather, if of long continuation, makes the leaves become of a bluish colour, and, when this is once the case, all the rain and all the fine weather in the world, will never make the crop a good one; because the plough cannot move amidst this scene of endless irregularity. This is one of the chief reasons why the ridge method is best.

(To be continued.)



Since the above was written, [see [*] in the preceding column] I have made a *Single Ox-Yoke*; and, I find it answer excellently well. Now, my work is much shortened; for in forming ridges, two Oxen are *awkward*. They occupy a wide space, and one of them is obliged to walk upon the ploughed land, which, besides making the ridge uneven at the top, presses the ground, which is injurious. For ploughing between the rows of Turnips and of *Indian Corn* also, what a great convenience this will be! An ox goes steadier than a horse, and will plough deeper without fretting and tearing; and he wants neither *harness-maker* nor *groom*. The plan of my yoke I took from TULL. I showed it to my workman, who chopped off the limb of a tree, and made the yoke in an hour. It is a piece of wood, with two holes to receive two ropes, about three quarters of an inch in diameter. These traces are fastened in the yoke merely by a knot, which prevents the ends from passing through the holes, while the other ends are fastened to the two ends of a *Wiffle-tree*, as it is called in Long Island, of a *Whipple-tree*, as it is called in Kent, and of a *Whippance*, as it is called in Hampshire. I am but a poor draftsman; but if the printer can find any thing to make the representation with, the preceding draft will clearly show what I have meant to describe in words. When the Corn (*Indian*) and Turnips get to a size, sufficient to attract the *appetite* of the ox,

you have only to put on a *muzzle*. This is what Mr. TULL did; for, though we ought not to muzzle the ox "as he *treadeth out the corn*," we may do it, even for his own sake, amongst other considerations, when he is assisting us to bring his crop to perfection.

The Ruta Baga Culture.

TO THE EDITOR OF THE AMERICAN FARMER.

Fulton Street, New York, 19th April, 1819.

SIR—In the second part of my year's residence, I give some account of an extraordinary field of Ruta Baga (or Swedish Turnips,) which was, as I had been informed, growing near Liverpool. My son William, who arrived at Liverpool from New York, on the 12th of January, went to see this famous field, and the following is his report relating to it. What he adds respecting the mode of using this root is, I think, well worthy of the attention of American farmers. The letter, of which the following is an extract, is dated London, 28th January, 1819. If you think the extract, together with this explanatory note, worthy of a place in your paper, you will, by inserting them, confer an obligation on, sir, your most obedient servant,

WM. COBBETT.

"I had not time to write to you from Liverpool about a fine field of turnips I there saw; but the following is an account of it:—*Half a ton off eight yards square ground*, of Swedish turnips with heads and tails cut off, ready for market; and the selling price to cow-keepers and cattle-feeders, 2 pounds sterling per ton. Thus the report of the crop being worth 200*l.* per acre, is an exaggeration of only 40 in the 200. For this eight yards square, which is two statute rods, is only *one Cheshire rod*. The turnips were by far larger than any I ever saw before, and very thick on the ground; but, you must understand that it is only in patches that they are so very fine. They are sown upon the same plan that our bailiff had those three acres that you found in the Home field, at Hill-farm, after the villains let you out from Newgate that is, with the Northumberland drill upon a single-bout ridge, the ridges at two feet apart, and the plants thinned to one foot in the rows; they profess to have the intervals twenty-seven inches, but they are barely two feet.

"This crop, of upwards of thirty-seven tons, not including greens, to a statute acre, comes off and which was, a very few years since, a wild marsh. The soil is rather sandy, but moist, and no manure has ever been put on but horse and cow dung. They expect just as good a crop from the same piece of ground again next year, without any manure. I was very anxious to get a score of the best of these turnips, to send you with your seeds; but as the farmer was not at home, the poor creature of a man who stood shivering in the rain, holding a horse-rug over his shoulders, did not know "how he would take it!" This was something new to me

"This cultivation of the Swedish turnip is very general in Lancashire. I saw along the road many fields of them, but no white turnips; and, what is very odd, not a field with a gally [bare] place, though parts of it were sown at three or four different times, one after the other, while

nobody in Hampshire has, this year, any such thing as a field of turnips. Robert, (a nickname for the fly) more than ordinarily voracious, eat them all up. But, besides, the fellows in the northern counties, having got the crops, they have, likewise, what is as full as much, and that is, the art and mystery of using them. It is a common practice to steam turnips for cows and horses. One man in particular, Mr. Brotherton, who is owner of most of the stages from Liverpool, on the Manchester road, grows the turnips and steams them regularly, as a principal part of the food for his working coach horses. I did not hear of this till I was coming along in the coach, or I should have gone and seen all about it."

N. B. Forty bushels, heaped measure, make a ton; so that here are 1430 bushels to the American acre, selling for 74 pounds sterling (or \$33 dollars) an acre; and that too, at an English shilling a bushel, which is not a quarter of a dollar, while the same sort of turnip is selling, wholesale, at New York, for a dollar a bushel! What a fine cargo to send hither! But let us hope, that after this year, America will stand in need of no such cargoes. I hope that we shall show, this summer, that we know how to profit from rain, and sun, and fine land, as well as other people. I mean, this year, to try whether *Hampstead Plains* will not beat this famous Lancashire crop.

From the Practical American Gardener.

For the Month of May.

[CONTINUED.]

Brussels, Sprouts, and Jerusalem Kale.

The Brussels' Sprouts and Jerusalem Kale, to be managed as the Borocole.

Turnip Cabbage and Turnip rooted Cabbage.

The seed of the turnip cabbage, may now be sown and the plants afterwards treated as directed for cabbages; but do not earth them above the swelling bulb or stem. The turnip rooted kind, should be sown on a bed of strong rich ground, and treated as turnips. Thin the plants with the hoe, to the distance of 16 inches apart.

The early sown plants may now be planted out.

Broccoli.

The early sown broccoli plant should now be planted out into beds of good rich earth, in an open situation at the distance of three feet every way.

Broccoli seeds should be sown early, in this month, for a second principal crop, for winter and spring use. On the opening of the spring, plant out the stalks of the purple kind, and they will produce abundance of sprouts.

Management of Beans in blossom.

The early mazagan, long podded, Windsor bean, &c. should be topped, when arrived at full bloom, and the lower pods beginning to set. The early mazagan bean, may be topped, when about two feet high, and the larger sort, when about three feet high; this may be done with the finger and thumb.

Sowing Peas.

A few of the early hotspur peas, where a suc-

cession is wanted, may be sown twice this month.

Transplanting Lettuces.

In moist weather, transplant such of the lettuce, sown in the two former months, as are fit, not near trees, but in the open ground.

Dig the ground neatly, and rake the surface smooth, then dibble in the plants, in rows, ten or twelve inches asunder, and the same distance from one another in the rows; water them immediately, and repeat it occasionally, until they have taken root.

Such as are intended to remain for heading, where sown, should now be thinned to about ten or twelve inches every way.

Sowing Lettuce Seed.

Lettuce seed of various kinds, may now be sown, two or three times, this month, for a constant supply. The different heading kinds, also, the Aleppo and Egyptian cos which do not head like the other kinds; but if tied up, as endive, they will blanch, and be very crisp. The various kinds of cos, which are now beginning to gather and whiten in the heart, should be tied up with strings of Russia mats, only a few at once.

Sowing Small Sallading.

Sow a variety of small sallading, every week, or ten days; for these, shoot to seed at this season very rapidly; such as cresses or peppergrass, &c. Sow the seeds, at this season in shallow drills, on shady borders, cover them lightly, and give them occasional waterings.

Kidney Beans.

A principal crop of kidney beans should be planted, in the first week of this month, and successive crops, about the middle and also towards the end.

Any of the dwarf kinds may now be planted. The cream-coloured, brown speckled, yellow and white, are the earliest sorts, and should be chosen for the first crop.

Let double drills be made for them, with a hoe, about two and a half feet asunder, and an inch and a half deep; drop the beans therein at the distance of two or three inches from one another, draw the earth smoothly over them.

The various kinds of running beans, may also, now be sown in drills, four or five feet asunder, and the seeds planted double the distance, of the dwarf sort, from one another. When the plants come up, and their runners begin to shoot, let some tall sticks, or poles, be placed to each row, for them to climb upon, they will soon take hold and twine themselves around the poles to the height of eight or ten feet, or more.

The Scarlet runner though in some of the eastern states it produces plentifully, in the middle states seldom produces much, and is only cultivated for the beauty of its flowers.

Carolina and Lima Beans.

The Carolina beans may be planted in the first week of this month, and treated as directed for the running kidney beans.

The Lima beans, should not be planted, in the middle states, before the middle of the month, when vegetation is very brisk, for they are subject to rot, if planted in cold weather, when the ground is moist. They should have a light sandy rich soil, and be planted in hills at the distance

of six feet from hill to hill; and the poles for their support, ought to be strong and near ten feet high. Both these kinds are very productive, will continue bearing till overtaken by frost, and are very delicious.

Radishes.

Hoe, or weed, and thin the advancing crops of radishes. Continue to sow a fresh supply, every two weeks.

Planting Radishes for Seed.

Transplant radishes for seed when the roots are just in their prime; set them in the ground in showery weather, if possible, if not give them frequent waterings. Choose for this purpose, some of the best kinds, long, perfectly strait rooted, and with short tops; those of clear pale red, and these of a deep purple, are to be preferred.

Plant the roots by dibble, in rows four feet asunder, and one foot in the row, in an open situation, and give them a good watering immediately after.

Select also, some of the best formed white and red turnip-rooted radishes, of moderate growth, hoe out the others and let them remain for seed; or if necessity requires, you may transplant them; in that case, plant the bulbs in the earth, leaving the tops free, and water them.

Spinach.

Weed and thin the spinach sown last month; and of the early crops, both of the round leaved and prickly seeded kinds, leave a sufficiency, both of the male and female plants for seed.

If a continuation is required, sow more of the smooth seed.

Cleaning and thinning Carrots and Parsnips.

Carrots may now be well cleared from weeds, and the plants thinned to about six or seven inches apart. Parsnips should also be attended to in like manner, and thinned to from eight to ten inches asunder, and the ground hoed between them.

Planting out Celery.

Some of the early celery plants, from the seed-bed should now be picked out, to obtain strength, previous to a final planting in trenches. They should be planted at the distance of three inches from one another, on beds of rich loose earth, watered immediately, and afterwards occasionally till they grow freely; and when they have acquired sufficient strength, they are to be planted in trenches, as directed in June.

Asparagus.

Asparagus is in the best state for cutting when the shoots are from two to four inches above ground, and the buds are close and compact. Keep the beds free from weeds and discontinue the general cutting, as soon as the stalks appear small and weaker than usual, as it would exhaust the roots, and injure the next year's produce.

Sowing Celery Seed.

Sow more celery seed for a principal later crop: shade them in hot sunny weather, and give them occasional waterings.

Beets.

Weed the early beets, and thin them to eight or nine inches, plant from plant. Continue to sow some of the red beet seed in drills.

Ruta Baga, or Swedish Turnip.

The *Ruta Baga* is more of the species of the turnip-rooted cabbages, than the common garden or field turnip. If the seed has not been sown in the last month, it may be sown, in the broadcast way, early in this. As the plants advance in their growth, they should be hoed out to the distance of about sixteen inches every way; they will continue increasing in size, till late in autumn, when, if not used before, they may be taken up, and preserved through the winter, in like manner as turnips; they are more hardy, will keep better, and be as fresh in May, as at Christmas.

The flesh of the root is yellow, sweet, and firm, being nearly twice as heavy, as the root of the common turnip of the same size. It is by many people preferred to the common turnip.

Onions.

The onions which were sown at an early season, with an expectation of their growing to a sufficient size the first year for table use, should now be perfectly cleared from weeds, and the plants thinned to about three inches from each other; some of them should be pulled out at an early period, and kept clear of weeds, from the first sowing, till they arrive at perfection.

Onion seed may be now sown broadcast, on rather a poor soil, to raise small bulbs for the next year's crop, and if the ground should be very dry, you may water them occasionally.

Turnips.

Hoe and thin your turnips, and sow some more of the early Dutch, in the beginning of this month, for a succession. The sowing should be performed immediately after rains; sow them thin and even, and rake the ground smooth.

Hamburg Parsley, Scorzoner, and Salsafy.

The large rooted parsley, scorzoner, and salsafy, must now be carefully cleaned from weeds and thinned to about six inches asunder.

Early in this month, sow principal crops for autumn and winter.

Capsicums or Red Peppers.

Early in this month you may sow, in a bed of rich earth, seeds of various kinds of capsicums; the large flat kind, commonly called *bull-nose*, is that which is preferred for pickling. These plants may be planted out in rows, about the first of June.

The early plants raised in hot-beds, should in the middle states, be now planted out, where they are to remain taking advantage of the moist or rainy weather. The rows to be two feet asunder and the plants eighteen inches apart in the rows. When planted, give each some water occasionally, to be kept free from weeds.

Tomatoes.

Sow the seeds of tomatoes in the first week in this month, on a warm sandy soil, to remain for fruiting, or they may be transplanted as before directed. Plant from the hot beds, about the middle of this month those plants, which are forwarded therein; about two feet apart, and provide supports for them to run on; or they may be trained to fences, as they run greatly, if kept clear of weeds.

Momordica or Balsam Apple.

There are two species of this plant, the large and the small.

The large balsam apple is a great runner, and requires a trellis twelve or fourteen feet high to run on, in order to support it, in the best manner; it will require some assistance in training it with strings. When it begins to produce fruit, the appearance is beautiful; they are sometimes from twelve to fifteen inches in length, and as they begin to ripen, are of a high, rich orange colour; and are much admired in our markets, though as a vulnerary, the smaller kind is preferable.

The seeds of the large sort (as well as the smaller) should be planted about the middle of this month, where they are to remain, as they do not bear transplanting; the soil should be very fine and rich. Put four or five seeds in a place, and if they all come up, permit only two to stand; should they be intended to form an arbour, others may be planted at three or four feet distance; and attended to in like manner; or they may be planted and treated as Carolina and Lima beans, and supported by long poles.

The smaller kind may be planted as the above, and when they appear above ground, fix sticks four or five feet high, for them to climb upon.

Egg-Plants.

About the middle of this month, you should set out, for fruiting, the early plants, which were forwarded in the hot-beds. A rich sandy soil is the most suitable for them. Plant them two and a half feet asunder. As they advance in growth, draw some earth about their stems; keep them clean from weeds.

Endive.

Some endive may now be sown for an early crop; but at this season, it is very apt to run to seed, and towards the latter end of the month, more may be sown. The white and green curled endive are the sorts to sow now. When the plants are about three inches high, they should be transplanted into beds, at the distance of ten or twelve inches from each other, and immediately watered.

(To be continued.)

COMMUNICATIONS.

FOR THE AMERICAN FARMER.

To the Lieutenants and Midshipmen

OF

THE UNITED STATES' NAVY.

No. II.

GENTLEMEN,

With every disposition on the part of your country to furnish you the means of obtaining practical information in the line of your profession, many of you must necessarily remain unemployed at sea, for the want of room on board our ships. You are, however, generally, attached to navy-yards, to ships in ordinary, or in port, and you have the opportunity of storing your minds with information highly necessary to perfect you in the knowledge of the duties of an experienced commander, and if this is denied you, in whatever situation you may be placed, the means are afforded you of acquiring those liberal attainments, without which, no one can be an accomplished officer, and which may be more

useful to those of the navy than of any other profession. No gentleman should be without them; and, at least of all, should you deprive yourselves of the golden opportunity which now presents itself; you, who are individually and collectively responsible for the character and standing of your country among foreign nations; you, who are to be its representatives abroad; you, who are frequently to decide on great national questions, and are to stand before princess and potentates of all nations, to sustain the rights of your country, founded on national law. Do you not deem it necessary to qualify yourselves in a knowledge of those languages, and those laws, which may hereafter not only render you useful, but highly ornamental? The time may be, and the circumstance may occur, that, from a single individual of the navy, the character of his nation may be inferred. Suppose, for example, some of our ships, in their extensive cruises for your instruction, or for other purposes, should touch at the port of some one of the princes of India, who had never seen an American, we will suppose the commander to call on him; we will suppose this commander to be a highly accomplished officer, capable of imparting to the prince a correct knowledge of our country, its political institutions, its commerce, &c. &c.; we will suppose his manners dignified, his whole conduct imposing,—would it not, I ask, be natural for this prince to infer that this officer was a fair sample of his nation? and is it not likely, that, in the event of commercial or other intercourse between us and the prince, we should derive some advantage from the favourable impressions produced by this officer on his mind? This is the situation in which you may all be placed; no rank is exempted from it; every officer, from the admiral, who commands his fleets, to the midshipman, to whom no distinct duties can be assigned, are all liable to it. What will be the pride of your country, if you, as their representative, acquit yourselves honourably? what their mortification, if otherwise? With such strong inducements, then, before you, need I admonish you of the necessity of applying all your leisure to those studies, which the paternal care of your country affords you the means of perfecting yourselves in, and without which, the nature of your profession, and the early period at which you have embraced it, would deprive you of the opportunity of doing? Let not the time be uselessly spent that is not occupied in search of knowledge purely professional, and even you, who are actively employed, do not place so high a value on your personal exertions, as to obstruct your mind from higher considerations. The strength that can execute, and the bravery that nothing can daunt, are highly estimable; but of what avail is strength and courage without the skill to direct them. They are estimable in the ox and the horse: man may possess them, and be despised. Courage and strength alone, never yet constituted what is generally called a great man. The most accomplished statesmen and warriors, have been men frequently remarkable for their feeble constitutions and want of personal strength, than otherwise; nay, the greatest naval hero that the world has produced, was infirm and a cripple when he gained his greatest victories. And how did he rise to that degree of splendour, which has daz-

zled the world? Not so much by his courage and strength, as by the most unremitting attention to every thing which related to a knowledge of the duties of a naval officer. From an obscure cabin boy, through every successive grade, he rose to the rank of admiral,—the protector of his country, her pride and her glory, the scourge and the dread of her enemies; the saviour of states, the companion of kings! There were some blemishes in his character, but it was its brilliancy that rendered them so conspicuous.

The rise of a navy officer is slow, but progressive; if he has merit, every day brings him nearer to his goal; the race of Nelson, was long and tedious. Nearly the whole period allotted to the life of man, was spent, ere he had attained the meridian of his glory. But can this be so much the case in our navy? Has not promotion been so rapid, as to scarcely allow the time necessary to qualify those who are advanced to a higher rank? And have we not seen those in command of squadrons, who, but a very few years since, entered the service as midshipmen? Such has been the rapidity of promotion, and equally (and if possible more) rapid it promises to be; but do not flatter yourselves to obtain it without deserving it. No rules have heretofore been established in relation to promotion: they are now adopted; public notice has been given of the time when examinations will take place, and every thing shows a disposition on the part of the government to enforce them. Formerly, some obtained promotion, who have proved unworthy of it; now, none can receive it but those who bid fair to become useful and ornamental to their country. Such may, under the existing rules, demand promotion, for they are entitled to it. Now, compare your situation with those of the same classes in the British navy; let us look at the letters of the "Post Captain," mentioned in my former address to you; he says, in pages 2, 3, and 4 of his introduction, that a midshipman must serve six years before he can obtain the rank of lieutenant; that few, except the sons of men of interest, obtain the rank of captain before thirty, and that the average age of arriving at the rank of rear admiral, is fifty-five years, a period of exposure and servitude sufficient to wear out any but an iron constitution. You may be admirals in the time required to form a British post captain! What is the language placed by the "Post Captain" in the mouth of a British lieutenant? "*What is the use of my exerting myself? I have no chance of promotion. I shall be a first lieutenant until I am gray-headed; then, perhaps, I may be promoted, by seniority.*" Page 6 of letters.

After complaining bitterly of the existing state of things, in the administration of the British navy, and recommending a system corresponding with the one which has been established by us, he says,

"There is a growing marine on the other side the Atlantic, that will, in another war, dispute with us the dominion of the seas. We may at first beat them by numbers; but, unless we alter our system they will beat us singly; and the maritime nations of Europe will be as glad to assist them in reducing our power at sea, as the continent to overturn the military sway of France.

"Your lordship will excuse my speaking plain;

the state of the navy requires it, and the safety of the country demands it." Page 7.

Such is the language of a British "Post Captain;" but do not let it lull you into a confidence of your own superiority; a confidence which was felt by British naval officers, and which has brought on England the evils which she now deplores; rather let it rouse your best energies to render the foregoing quotations prophetic.

A NAVAL OFFICER.

MISCELLANY.

SELECTIONS.

The eighteenth century, beyond any in the circle of authentic history, has been distinguished for the application of mechanical means in aid of the physical powers of mankind. It has been estimated, that, in the Island of Great Britain alone, the use of machinery was so general, as to have been equivalent to an addition to the population of one hundred millions of adult persons.

Boston Manufacturers.—There have been finished this week at *Doggett's* Manufactory, in Market Street, a pair of *Looking Glasses*, the piers of which are 72 by 40 inches. They have been purchased by one of our patriotic citizens, and now adorn his elegant mansion. The price paid for them, was nine hundred dollars; and we think them richly worth every cent of the money. We have a double satisfaction in noticing this subject;—in the first place, that we have a mechanic capable of executing so superb a specimen of finished American Workmanship; and in the next, that we possess citizens able and willing to patronise such talent and enterprise. We feel no hesitation in saying, that the carved work, gilding, &c. of these glasses, would vie with the best productions of workshops of London or Paris.—*Boston Post.*

Portland April, 21.—Arrived in this town last week, Admiral GEORGE TATE, of the Russian Navy, on a visit to his relatives and friends who reside in this place and vicinity. Admiral Tate came with his parents to this country from England, when between one and two years of age, and resided in that part of Falmouth called Stroudwater. At the age of twenty, he left this for the West Indies, and thence to England—and soon after entered the Russian service—in which he has continued ever since, a period of forty-eight years, and by his merit and good conduct, as an officer and gentleman, has risen to the first rank and command in his profession. Admiral Tate is also a member of the Russian Senate, the highest court of the Empire.

WEIGHTS AND MEASURES.

The commercial world will learn with satisfaction, that a plan has been commenced under the auspices of the British government, for determining the relative contents of the weights and measures of all trading countries. This important subject is to be accomplished by procuring from abroad, correct copies of foreign standards, and comparing them with those of

England at his majesty's mint. Such a comparison, which could be effected only at a moment of universal peace, has never been attempted on a plan sufficiently general or systematic; and hence the errors and contradictions which abound in tables of foreign weights and measures even in works of the highest authority. In order, therefore, to remedy an inconvenience so perplexing in commerce, viscount Castlereagh has, by the recommendation of the board of trade, issued a circular, dated March 16, 1818, directing all the British consuls abroad, to send home copies of the principal standards used within their respective consulates, verified by the proper authorities and accompanied by explanatory papers and other documents relative to the subject. Most of his lordship's orders have been already executed in a very full and satisfactory manner. The despatches and packages transmitted on the occasion, are deposited at the royal mint, where the standards are to be forthwith compared.

Marvellous.—A circumstance has recently taken place at Fahlun, the capital of Delacarla, in Sweden, which might figure with advantage in a novel. In working to establish a new communication between two shafts of a mine, the body of a miner was discovered in a state of perfect preservation, and impregnated with vitriolic water. This body was quite soft, but hardened on being exposed to the air. No one could identify the individual; it was only recollected, that the accident by which he had been buried in the earth, had taken place fifty years ago. All inquiries as to the name of the sufferer, had already ceased, when a decrepid woman leaning upon crutches, slowly advanced towards the corpse, and knew it to be that of a young man to whom she had been promised in marriage, half a century ago. She threw herself on the body, which had the appearance of bronze, bathed it with tears and fainted with joy at having once more beheld the object of her affection, this side the grave. It is easier to conceive than to trace the contrast offered by this couple—the one buried fifty years ago still answering all the appearances of youth; while the other, weighed down by age, evinced all the fervency of youthful love.

In Sanda, one of the Orkney Isles, the sand has lately been blown away to the depth of nearly twenty feet, and has discovered the remains of buildings of remote antiquity, enclosed by stone walls nearly half a mile in extent; some of the houses are very large, and roofed with stones of prodigious size. There are circular tumuli each containing three graves, none of which are more than four feet six inches in length; and there is no tradition afloat that can throw light on these very curious remains which have undergone hitherto but a very slight investigation.

RAPID GROWTH.

Killed at Easton, in the County of Bristol, Mass. the 12th instant, a Hog the property of Cyrus LORIMER, Esq. one year and 8 months old, which weighed 742 lbs. The thickness of his pork measured nine inches in the clear. He girted five feet round the neck, seven round the

largest part of his body, and was six feet and 2 inches in length. He was purchased on the 3d day of December, 1817; at that time a small Pig, and so unpromising in appearance, that he would not sell for half the then market price. He discovered no signs of uncommon growth until April, 1818; from which time, until he was killed, the rapidity of his increase was really astonishing. He gained in one year, six hundred and sixty-five pounds!!

It is said of Lopez de Vega, the Shakspeare of Spain, that he was once asked by the bishop of Bellero to explain one of his sonnets, which the bishop said he had often read, but never understood. Lopez took up the sonnet; and after reading it over and over several times, frankly acknowledged that he did not understand it himself.

BALTIMORE:

FRIDAY, APRIL 30, 1819.

On the cultivation of Indian Corn—

method of planting described—fluctuation of price—its causes—choice of seed—mode of curing it recommended.

As the season is at hand for planting Indian Corn, we beg leave to invite the attention of Agriculturists to some particulars, wherein experiments may be tried, to improve the quality and to increase the quantity of that most important and valuable grain, deservedly considered the staff and the boast of our country. It is probably, too late now, to make any suggestions relative to the *mode of planting*—as, before this will reach the eye of the reader, he will have progressed too far in his preparations to adopt any new plan; for those, however, who may have it in their power to make the trial, we will here mention the system adopted by Col. Taylor, of Caroline, Virginia, and now, as we understand, practised and highly approved of, to a considerable extent in that state.

According to his plan, corn should be planted at the distance of $5\frac{1}{2}$ feet square, with two or three stalks in a hill, according to the strength of the ground; on that which is quite poor, one grain is deemed enough for each hill.—This is the method pursued by him, on land that will not produce more than 40 bushels to the acre; and, in Maryland, we are sorry to say, very few farmers make that much, except, perhaps in Frederick and Washington Counties. The rows are never ploughed but in one direction, that is, north and south. If the land will produce more than 40 bushels, it may, according to his opinion and practice, be planted $5\frac{1}{2}$ feet one way, and two feet nine inches the other; cross ploughing is wholly abandoned; and the roots, in one direction, remain uncut through the whole period of cultivation. The most common mode in this state, is to plant it equi-distant in all directions, about 6 feet each way, and to plough it both ways alternately. Very little pains is taken in the first instance, to have the furrow made perfectly straight, as it might be done; and what gives to the field a still more slovenly appearance, and is attended with disadvantages and embarrassment through the whole course of cultivation, the entire want of method, or precision, in arranging the dis-

tance of the hills from each other, in the line of the furrow.

The usual mode, after the field is listed, without any gauge but the ploughman's eye, is, for each labourer to take his hoe and crossing the furrow, dig a hole for the corn at what he guesses to be about six feet, having no guide but his eye, and his imagination, both of which are often dwelling on other objects—so, that nothing can be more irregular and unseemly, than a field of young corn so planted. One might suppose, to look at it, that it had been dropt by a blind or a drunken man.—The irregularity in the standing of such corn, prevents one from seeing through a row of a few hundred yards in length.—It requires continual watchfulness, afterwards, on the part of an uninterested slave ploughman, who must take special care to make a zig zag furrow, lest by a straight line furrow he should cut up one half of the hills.

The method spoken of by Col Taylor, of fixing the distance of the hills by coloured rags on a string, is no doubt very good; another and a very simple one, which we have seen practised, is to fasten two small sapplings, so, that the two ends, which are intended to make the mark across the furrow, shall be at whatever distance the corn is designed to be planted in that direction.—These sapplings are fastened by a cross bar, uniting them just behind the horse; the other two ends are brought nearer, so as to be about the distance before, as the shafts of a horse cart, and fastened like them to the hames—a back band fastened to a hook, a staple or a pin on each side, and crossing over a common cart or packsaddle, constitutes the whole gear necessary for this simple instrument, which may be constructed with an axe and an augur, by any ploughman, without the aid of a nail or of a black-smith.

In the use of this sledge, it will be observed, that having made one straight line across the furrows, by keeping the heel of one shaft, always in the last outside mark made by the other shaft—then dropping the corn where these marks cross, the furrows, every one is sure to be of precisely the same distance.—The sledge is controlled by the workman, with perfect ease, by means of a small bow of green wood, each end of which is put through an auger hole, and wedged in near the lower end of each shaft of the sledge; making a handle for the workman. In the common way, as here described, the sledge marks one row each time, but it might easily be so constructed as to describe two or even three rows at least, for corn planted at the distance of two feet 9 inches.

AS TO THE TIME OF PLANTING.

On the western shore, in the lower counties of this state, with whose practice the Editor is more conversant, the usual time “fixed by the old people,” is from the 1st to the 20th of May, but most commonly they commence about the 10th of that month. On the eastern shore of Maryland, it is believed they plant, on an average, 10 days sooner; the object, being, probably, to gain time for replanting; but it often happens, that the corn planted so early, rots in the ground, for want of sufficient atmospheric heat to promote vegetation: we incline to think, that in this, as in other crops the latter planting is the best system, as it ensures an off hand and uninterrupted

vegetation and growth, which must be in all cases of great advantage.

THE NUMBER OF SEED IN A HILL.

In our humble judgment, it would be better to double the usual number, which is three or four; and the reasoning is this:—

The great enemies to young corn in our country are the crow and the black bird—by which, soon after it makes its appearance, it is seized and pulled up. These vile robbers, in a state, naturally, either of restlessness or of content apprehension, remain but a short time at each hill: so that it would generally happen, that if they remained long enough to pull up, say two or three grains, the usual number planted, they would most probably “hop off,” leaving still a sufficient number of surviving stalks, if six or eight had been planted. If none should be pulled up by the birds, they are easily thinned at a proper season.

Again—by planting a greater number of grains, the roots of all become so intertwined with each other, that the bird cannot easily draw up one without bringing along the whole mass, which either exceeds his strength, or the strength of the young stalk.

AS TO THE KIND OF CORN.

On this point, much might be said, as much depends on the purposes for which it is intended, the climate where it is to be cultivated, and the nature of the land.

What at first appeared strange to us, and may so appear to some of our readers, is, not so much that the price of corn varies almost every day in the Baltimore market, from one to three cents per bushel, but, that different kinds of corn, should be each, alternately, higher and lower, than the other.

These irregularities grow out of a variety of causes.—They are a source of perplexity and of considerable fault finding amongst the Planters of Maryland, many of whom attribute it to occasional combinations amongst the purchasers here. If we knew of, or if any person will convince us of such combinations to forestall or monopolise; as the sincere friend and humble advocate of the Agriculturist, we will not hesitate to expose and reprobate them; but we feel persuaded, that such combinations are much more easily imagined or apprehended, than they are actually formed. We are of opinion, that these vibrations of price turn on other causes. The rise or fall, in general, speaking without regard to any particular kind of corn, depends on the quantity in market at the time, and on the general demand, for home and foreign markets; this is the course of nature, and is a sort of truism, which we need scarcely have repeated.—The other irregularity, respecting the alternate prevalence of higher prices, for yellow or for white corn, is not so generally understood. This depends on the relative proportions of each in market, combined with a view to the particular foreign market for which the demand happens, at the moment, to exist, and where, for all we can learn, the price of either, depends, not so much on any intrinsic difference between them, as on the taste and prejudices which prevail amongst different people in different countries. For the southern ports within the United States, for example, the white corn, is purchased almost exclu-

sively; it is intended for blacks, employed in the more profitable cultivation of rice and cotton; and blacks are known, it is believed, every where, to entertain a strong disinclination, not to say antipathy, to *yellow corn*; so that, if a few vessels happen to "be up," as the merchants phrase it, for the southern, and none for the eastern states, white corn rises a few cents above yellow.

On the other hand, for the *Eastern States*, where "the folks" calculate very nicely the length, breadth and the weight of things; where they have no slaves, and where the corn is fed to their horses and other live stock, none but yellow corn is demanded, that being considered more solid and nutritious than white. To the West Indies and the Portuguese markets, the yellow corn is usually exported; to Madeira and other markets, we have been told, the white is usually sent. The much greater part of the great quantity consumed in this city, is white; and far the larger proportion of all that is sold in this market, is of that colour.

With a view merely to the *price*, however, the farmer might select the one, or the other, with, in general, an equal chance of a satisfactory price. His selection, therefore, should be guided with a view to *quantity*, having an eye to the strength of his land, as that which yields most on rich, could not be sustained on poor land.

From our observation upon the different species of corn, cultivated in this state, we should give the preference to the *long yellow narrow grained gourdseed*,* unless it were on land so poor that we should not wish to cultivate it at all: For all our river bottoms, and for tolerably good strong upland, we think it possesses decided advantages over other kinds. These advantages consist in no superiority of quality, but in the *greater quantity* which it yields. It has been objected to, that it has *too large a cob*; but it is not manifest, that the larger the circumference of the cob, the greater the quantity of grain necessary to cover it? To this corn, the grain of which is much *longer* than any other, this observation applies in an eminent degree.

We have been credibly informed, and believe the fact, that a *barrel* of the *ears* of this corn, will shell six bushels, and often more, of grain; whereas from other kinds, not more than five are expected. The common number of rows on an ear, is from 14 to 22† on the yellow gourd seed; the writer of this has several times seen *forty perfect rows*; for the truth of which, reference may be had to the venerable and much respected Chief Judge of the Maryland District Court of the United States, to whom the Editor once sent one containing that number.

* It is a fact, we presume generally known, that corn never has an odd number of rows.

The quantity of *grain* which corn will yield in proportion to its bulk in the *ear*, may be measured by fastening a paper close round the ear, then withdrawing it, and *shelling* the grain into the paper. The grain, if a sound ear of genuine gourd seed corn, will fill the space thus occupied by the whole ear.

† The stock of this corn was procured from the late *Basil Brooke*, who cultivated it on Battle creek and from whose nearest representative, the Editor endeavoured to procure a few ears, but without success.

This corn it is true, takes longer to dry, and is more liable to be injured in the loft than other corn, owing to the *length* of the grain and the *compactness* of the rows, and perhaps also to the thickness of the husk. This is the only argument we have heard against the adoption of it; but if the corn-loft be properly constructed, all danger on that score may be obviated, and as to the idea that it is longer in ripening, and more likely to be overtaken by the frost; the Editor of this paper affirms, that he remembers, when quite a boy, that his lamented father, residing near the Court House, in Calvert County, had his whole crop of this corn husked and lofted by the *last day of October*. The object, he believes, was, to sow wheat in the field. The corn was thoroughly and soundly cured, but it was probably saved by the following extraordinary process, which is worthy of record and of further trial.

The loft was that of a round log house, used below for a stable. The floor of the loft consisted of thick sleepers, split out of chesnut timber, and the edges not quite touching. A fire was kindled below for several days in succession, not to *heat* but to *smoke* the corn. The smoke did pass accordingly through the whole mass, say 150 barrels, and the corn was thoroughly and completely dried and cured.

It has often since occurred, that this plan might be put in practice with great advantage, and would allow corn to be gathered at an earlier period. It goes conclusively to obviate the objections against that kind of corn, and leaves it, on a consideration of all other circumstances, without a rival or competitor, in the estimation of the Editor of the *American Farmer*.

Very late from England.

Boston, April 23, 1819.

By the fast sailing ship Triton, capt. Holecomb, in 18 days from Liverpool, we have received from our correspondents in London, files to the end of March, and Liverpool papers to the 3d inst. We have copied the articles which they furnish of greatest interest to the American reader. Tranquillity seems to have been in a greater measure restored in France. The new members of the chamber of peers had been principally qualified and taken their seats. The chamber of deputies had not been dissolved, and on the other hand had shown their disposition to support the ministry, by rejecting the proposition from the peers, relative to the law of elections, by a handsome majority.

In the British house of commons, after a very interesting inquiry, a debate on the petition against the hon. Windham Quin, a member from Limerick, charging him of bribing; a resolution against him was negatived—ayes 73, noes 162.

St. Jean d'Angely, who had obtained permission to return to France, arrived at Paris March 10, and died the day after of the gout in the stomach.

A German paper estimates the fortune of the Prince of Peace, at 100,000,000 Spanish dollars, of which 40,000,000 are said to be deposited in England, and 10,000,000 in France.

The examinations before the secret committee of the house of commons, for inquiry into the state of the bank, has terminated, but the report has not yet been submitted to the house.

His excellency M. Latour Mabourg, is appointed French minister to the court of London.

The celebrated M. de Kotzebue was *assassinated* by a student at Manheim, on the 23d of March; and the latter immediately committed suicide with the same pogniard which had been the instrument of his crime. Both instantly expired.

In consequence of an agreement between the Spanish and British governments, a Mr. Dick is to proceed from England to Vera Cruz, to receive a quantity of specie collected at that port.

A great number of vessels have been chartered in England, to proceed to the Pacific Ocean with goods, under an idea that the Revolutionists have made a successful attempt on Lima.

A plan for employing the poor in agricultural labours, that they may obtain the whole or a part of their support, is under consideration in England. It is stated, that there are 10,000 acres of waste land near London, which might be made productive by extra labour.

The emperor of Russia has published an ordinance, by which the right of establishing manufactures of every description, is granted to the peasants, it having been before confined to the nobility and merchants.

The mourning for the late king of Sweden, was continued for a whole year, except one month, when it was suspended on account of the coronation; and it was, for that reason, continued a month beyond the year. But the long period of wearing mourning having proved injurious to the trade, the king "having taken into consideration that the loss of a good king, or a member of the royal family, is great enough for a faithful people without increasing it by any observances injurious to the public industry," has ordained, that, for the future, mourning for a king or queen shall last but six months.

The births in Stockholm, during the last year, 1818, were 2344; deaths, 2280; marriages, 505; divorces 26.

The merchants and traders of St. Johns, have agreed to receive and circulate doubloons for sixteen dollars, and the parts of doubloons at the same rate. This increase of their current value is made for the purpose of encouraging the importation of them from the West Indies, and to prevent the exportation to the United States.

It is said, that several British naval officers, have been struck from the rolls, for entering the Revolutionary service.

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,
BALTIMORE,

AT FOUR DOLLARS PER ANNUM,

PAYABLE IN ADVANCE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, MAY 7, 1819.

NUM. 6.

AGRICULTURE.

The RUTA BAGA or SWEDISH TURNIP.

FROM CORBETT'S YEAR'S RESIDENCE.

(Concluded from No. 5, page 35.)

USE OF AND MODE OF APPLYING THE CROP.

It is harder to say, what uses this root may not be put, than what uses it may be put to, in the feeding of animals. They are eaten greedily by sheep, horn cattle, and hogs, in their raw state. *Boiled or steamed* (which is better) no dog that I ever saw, will refuse it. Poultry of all sorts will live upon it in its cooked state. Some dogs will even eat it raw; a fact that I first became acquainted with from perceiving my shepherd's dog eating it in the field along with the sheep. I have two *Spaniels* that come into the barn and eat it raw; yet they are both in a fine condition. Some of the horses will nearly live upon it in the raw state; others are not so fond of it.

Let me give an account of what I am doing now (in the month of April) with my crop.

It is not pretended, that this root *measures for measure*, is equal to *Indian Corn in the ear*. Therefore, as I can get *Indian Corn in the ear* for a half dollar a bushel, and as I sell my *Ruta Baga* for half a dollar a bushel at New York, I am very sparing of the use of the latter for animals. Indeed, I use none at home, except such as have been injured, as above-mentioned, by the delay in the harvesting. These damaged roots apply in the following manner.

Twice a day I take about two bushels, and scatter them upon the grass for fifteen Ewes with their lambs, and a few wether sheep, and for seven stout store-pigs, which eat with them. Once a day, I fling out a parcel of the refuse that have been cut from the roots sent to market, along with cabbage leaves, and stems, parsnip fibres, and the like. Here the working oxen, hogs, cow, sheep and fowls, all feed as they please. All these animals are in an excellent condition. The cow has no other food; the working oxen a lock of hay twice a day; the Ewes an ear of *Indian Corn* each; the pigs nothing but the roots; the fowls and ducks and turkeys are never fed in any other way, though they know how to feed themselves whenever there is any good feed to be found above ground.

I am weaning some pigs, which, as every one knows, is an affair of *milk and meal*. I have neither. I give about three buckets of *boiled Ruta Baga* to seven pigs every day, not having any

convenience for steaming; and two baits of *Indian Corn in the ear*. And, with this diet, increasing the quantity with the growth of the pigs, I expect to turn them out of the sty fatter (if that be possible) than they entered it. Now, if this be so, every farmer will say, that this is what never was done before in America. We all know how important a thing it is to wean a pig well. Any body can wean them without *milk and meal*; but, then, the pigs are good for nothing. They remain three months afterwards and never grow an inch; and they are, indeed, not worth having. To have milk, you must have cows, and cows are vast consumers! To have cows, you must have *female labour*, which, in America, is a very precious commodity. You cannot have *meal*, without sharing, in his kind, pretty liberally with the miller, besides bestowing labour, however busy you may be, to carry the corn to mill and bring the meal back. I am, however, speaking here, of the pigs from my English breed; though I am far from supposing, that the common pigs might not be weaned in the same way.

Sows with young pigs, I feed thus: *boiled Ruta Baga* twice a day. About three ears of *Indian Corn* a piece twice a day. As much offal *Ruta Baga raw*, as they will eat. Amongst this *boiled Ruta Baga*, the pot-liquor of the house goes, of course; but then the dogs, I dare say, take care, that the best shall fall to their lot; and as there are four of them pretty fat, their share cannot be very small. Every one knows, what good food, how much *meal and milk* are necessary to sows which have pigs. I have no milk, for my cows has not yet calved. And, then, what a chance concern this is; for, the sows may perversely have pigs at the time when the cows do not please to give milk; or, rather, when they poor things, without any fault of theirs, are permitted to go dry, which never need be nor never ought to be the case. I, had a cow once, that made more than two pounds of butter during the week, and had a calf on the Saturday night. Cows always ought to be milked to the very day of their calving, and during the whole of the time of their suckling their calves. But, "sufficient unto the day is the evil thereof." Let us leave this matter, till another time. Having accidentally mentioned cows, I will just observe, that, in the little publication of Mr. CRAMP, mentioned above, as having been printed by the Board of Agriculture, it was stated, and the proof given, that his single cow gave him, *clear profit*, for several successive years, more than *fifty pounds sterling a year*, or upwards of *two hundred and twenty dollars*. This was *clear profit*; reckoning the food and labour, and taking credit for the call the butter, and for the skim milk at a penny a

quart only. Mr. CRAMP's was a *Sussex* cow. Mine were of the *Alderny* breed; little small boned things; but, two of my cows, fed upon *three quarters of an acre of grass ground*, in the middle of my shrubbery, and fastened to pins in the ground which were shifted twice a day, made *three hundred pounds of butter* from the 28th of March to the 27th of June. This is a finer country for cattle than England; and yet, what do I see!

This difficulty about feeding sows with young pigs and weaning pigs, is one of the greatest of hindrances to improvement; for, after all, what animal produces flesh meat like the hog? Applicable to all uses, either fresh or salted, is the meat. Good in all its various shapes. The animal killable at all ages. Quickly fattened. Good if half fat. Capable of supporting an immense burden of fat. Demanding but little space for its accommodation; and yet, if grain and corn and milk are to be their principal food, during their lives, they cannot multiply very fast; because many upon a farm cannot be kept to much profit. But if, by providing a sufficiency of *Ruta Baga*, a hundred pigs could be raised on a farm in a year, and carried on till fattening time, they would be worth, when ready to go into the fattening sty, fifteen dollars each. This would be something worth attending to; and, the farm must become rich from the manure. The *Ruta Baga*, taken out of the heaps early in April, will keep well and sound all the summer; and, with a run in an orchard, or in any grassy place, it will keep a good sort of hog always in a very thriving and even *fleshy* state.

This root, being called a *turnip*, is regarded as a *turnip*, as a common turnip, than which nothing can be much less resembling it. The common turnip is a very poor thing. The poorest of all the roots of the bulb kind, cultivated in the field; and the *Ruta Baga*, all taken together, is perhaps the very best. It loses none of its good qualities by being long kept, though dry all the while. A neighbour of mine in Hampshire, having saved a large piece of *Ruta Baga* for seed, and having, after harvesting the seed, accidentally thrown some of the roots into his yard, saw his hogs eat these old roots, which had borne the seed. He gave them some more, and saw that they eat them greedily. He therefore went and bought a whole drove, in number about forty, of lean pigs of a good large size, brought them into his yard, carted in the roots of his seed *Ruta Baga*; and, without having given the pigs a handful of any other sort of food, sold out his pigs as fat porkers. And, indeed, it is a fact well known that sheep and cattle as well as hogs will thrive upon this root after it has borne seed, which is what, I believe, can be said of no other root or plant.

When we feed off our Ruta Baga in the fields in England, by sheep, there are small parts left by the sheep; the *shells* which they have left after scooping out the pulp of the bulb; the tap root; and other little bits. These are pecked out of the ground; and when washed by the rain, other sheep follow and live upon these. Or, in default of other sheep, hogs or cattle are turned in, in dry weather, and they leave not a morsel.

Nor are the *greens* to be forgotten. In England, they are generally eaten by the sheep, when these are turned in upon them. When the roots are taken up for uses at the home-stead, the greens are given to store pigs and lean cattle.—I cut mine off while the roots were in the ground, and gave them to fatten cattle, upon grass land alternately with Indian Corn in the ear; and in this way, they are easily and most profitably applied, and they come, too, just after the grass is gone from the pastures. An acre produces about four good wagon loads of greens; and they are taken off fresh as they are wanted, and at the same time, the roots are thus made ready for going, at once, into the heaps. Pigs, sheep, cattle; all like the greens as well as they do the roots. Try any of them with the greens of *White Turnips*; and if they touch them, they will have changed their natures, or at least their tastes.

The Mangel Wurtzle, the Cabbage, the Carrot, and the Parsnip, are all useful; and the *latter*, that is to say, the *Parsnip*, very valuable indeed; but the *main* cattle crop is the Ruta Baga. Even the *white* turnip, if well cultivated, may be of great use; and, as it admits of being sown *later*, it may be often very desirable to raise it. But reserving myself to speak fully, in a future part of my work, of my experiments as to these crops, I shall now make a short inquiry as to the value of a crop of Ruta Baga, compared with the value of any other crop. I will just observe, in this place, however, that I have grown *finer* carrots, parsnips and Mangel Wurtzle, and even *finer* cabbages, than I ever grew upon the richest land in Hampshire, though not a seed of any of them was put into the ground until the month of June.

A good mode, it appears to me, of making my proposed comparative estimate, will be to say, *how I would proceed*, supposing me to have a farm of my own in this island, of only one hundred acres. If there were not twelve acres of orchard, near the house, I would throw as much grass land to the orchard as would make up the twelve acres, which I would fence in an effectual manner, against small pigs as well as large oxen.

Having done this, I would take care to have fifteen acres of *good* Indian Corn, well planted, well suckered, and well tilled in all respects. Good deep ploughing between the plants, would give me forty bushels of shelled corn to an acre; and a ton to the acre of fodder for my four working oxen, and three cows and my sheep and hogs, of which I shall speak presently.

I would have *twelve* acres of Ruta Baga, *three* acres of Early Cabbages, an acre of Mangel Wurtzle, an acre of Carrots and Parsnips, and as many *White Turnips* as would grow between my rows of Indian Corn after my last ploughing of that crop.

With these crops, which would occupy thirty-two acres of ground, I should not fear being

able to keep a good house in all sorts of meat, together with butter and milk, and to send to market nine quarters of beef and three hides, a hundred early fat lambs, a hundred hog weighing twelve score, as we call it in Hampshire, or two hundred and forty pounds each, and a hundred fat ewes. These, all together, would amount to about three thousand dollars, exclusive of the cost of a hundred ewes and of three oxen; and, I should hope, that the produce of my trees in the orchard, and of the other fifty-six acres of my farm would pay the rent and the labour; for, as to *taxes*, the amount of which is not worth naming, especially after the sublime spectacle of that sort, which the world beholds in England.

I am, you will perceive, not making any account of the price of Ruta Baga, Cabbages, Carrots, Parsnips and white Turnips, at *New York*, or any other market. I *now*, indeed, sell Carrots and Parsnips at three quarters of a dollar the *hundred* by tale; cabbages (of last fall) at about three dollars a hundred, and *White Turnips* at a quarter of a dollar a bushel. When this can be done, and the distance is within twenty or thirty miles, on the *best road in the world*, it will of course, be done; but, my calculations are built upon a supposed consumption of the whole upon the farm, by animals of one sort or another.

My feeding would be nearly as follows. I will begin with February; for, until then the Ruta Baga does not come to its sweetest taste. It is like an apple, that must have time to ripen; but, then, it retains its goodness much longer. I have proved, and especially in the feeding of hogs, that the Ruta Baga is never so good, until it arrives at a mature state. In February, and about the first of that month, I should begin bringing in my Ruta Baga, in the manner before described. My three oxen, which would have been brought forward by other food to be spoken of by and by, would be *tied* up in a stall, looking into one of those fine commodious barn-floors which we have upon this island. Their stall should be *warm*, and they should be kept well littered, and cleaned out frequently. The Ruta Baga, just chopped into large pieces with a spade or shovel, and tossed into the manger to the oxen, at the rate of about two bushels a day to each ox, would make them completely fat, without the aid of corn, hay, or any other thing. I should, probably, kill one ox at Christmas, and, in that case, he must have had a longer time than the others upon other food. If I killed one of the two remaining oxen in the middle of March, and the other on the first of May, they would consume 266 bushels of Ruta Baga.

My hundred ewes would begin upon Ruta Baga at the same time, and as my grass ground would be only twelve acres, until after hay time, I shall suppose them to be fed on this root until July, they will always eat it and thrive upon it. They will eat about eight pounds each a day; so that, for 105 days it would require a hundred and twenty thousand pounds weight, or two thousand four hundred bushels.

Fourteen breeding sows to be kept all the year round, would bring a hundred pigs in the spring, and they and their pigs would, during the same 150 days consume much about the same quantity; for though the pigs would be small

during these 150 days, yet they eat a great deal more than a sheep in proportion to their size, or rather bulk. However, as they would eat very little during 60 days of their age, I have rather over-rated their consumption.

Three cows and four working oxen, would during the 150 days, consume about one thousand bushels, which, indeed, would be more than sufficient, because, during a great part of the time, they would more than half live upon Corn stalks; and, indeed, this to a certain extent, would be the case with the sheep. However, as I mean that every thing should be of a good size, and *live well*, I make ample provision.

I should want, then, to raise *five hundred* bushels of Ruta Baga upon each of my twelve acres; and why should I not do it, seeing that I have this year raised six hundred and forty bushels upon an acre, under circumstances such as I have stated them. I lay it down, therefore, that, with a culture as good as that of Indian Corn, any man may, on this island, (where Corn will grow) have 500 bushels to the acre.

I am now come to the first of July. My oxen are fatted and disposed of. My lambs are gone to market, the last of them a month ago. My pigs are weaned, and of a good size. And now my Ruta Baga is gone. But, my ewes, kept well through the winter, will soon be fat upon the twelve acres of orchard and hay ground, aided by my three acres of early cabbages, which are now fit to begin cutting, or, rather, pulling up. The weight of this crop may be made very great indeed. Ten thousand plants will stand upon an acre, in *four feet ridges*, and every plant ought to weigh *three pounds* at least. I have shown before how advantageously Ruta Baga *transplanted* would follow these cabbages, all through the months of July and August. But what a crop of *buckwheat* would follow such of the cabbages, as came off in *July*! My cabbages, together with my hay fields and grain fields after harvest, and about forty or fifty wagon loads of Ruta Baga *greens*, would carry me along well until December [the cabbages being planted at different times:] for my ewes would be sold fat in July, and my pigs would be only increasing in demand for food; and the new hundred ewes need not, and ought not, to be kept so well as if they were fattening, or had lambs by their side.

From the first of December to the first of February Mangel Wurtzle and White Turnips would keep the sheep, and cattle, and breeding sows, plentifully; for the latter would live well upon Mangel Wurtzle; and my hundred hogs, intended for fattening, would be much *more* than *half* fat upon the carrots and parsnips. I should, however, more probably, keep my parsnips until spring, and mix the feeding with carrots with the feeding with corn, for the 1st month, or fifteen days with regard to the fattening hogs. None of these hogs would require more than three bushels of corn each, to finish them completely. My other three hundred bushels would be for sows giving suck; for the ewes, now and then in wet weather; and for other occasional purposes.

Thus all my *hay*, and *oats*, and *wheat*, and *rye*, might be sold, leaving me the straw for litter. These, surely, would pay the rent and the labour; and, if I am told, that I have taken no account of the mutton, and lamb, and pork, that my house

would demand, neither have I taken any account of a hundred summer figs, which the fourteen sows would have, and which would hardly fail to bring two hundred dollars. Poultry demand some food; but three parts of their raising consists of care; and if I have nobody in my house to bestow this care, I should of course, have the less number of mouths to feed.

But, my horses. Will not they swallow my hay and my oats? No: for I want no horses. But, am I never to take a ride, then? Ay, but, if I do, I have no right to lay the expense of it to the account of the farm. I am speaking of how a man may live by and upon a farm. If a merchant spend a thousand a year, and gain a thousand, does he say, that his traffic has gained him nothing? When men "lose money by farming," as they call it, they forget that it is not the farming, but other expenses, that take away their money. It is, in fact, they that rob the farm, and not the farm them. Horses may be kept for the purpose of going to church, or to meeting, or to pay visits. In many cases, this may be not only convenient, but necessary, to a family; but, upon this island, I am very sure, that it is neither convenient nor necessary to a farm. "What!" the ladies will say, "would you have us to be shut up at home all our lives; or be dragged about by oxen." By no means; not I! I should be very sorry to be thought the author of any such advice. I have no sort of objection to the keeping of horses upon a farm; but I do insist upon it, that all the food and manual labour required by such horses, ought to be considered as so much taken from the clear profits of the farm.

I have made sheep, and particularly lambs, a part of my supposed stock; but I do not know, that I should keep any beyond what might be useful for my house. Hogs are the most profitable stock, if you have a large quantity of the food that they will thrive on. They are foul feeders; but they will eat nothing that is poor in its nature; that is to say, they will not thrive on it. They are the most able tasters in all the creation; and that which they like best, you may be quite sure has the greatest quantity of nutritious matter in it, from a white turnip to a piece of beef. They will prefer meat to corn, and cooked meat to raw; they will leave parsnips for corn or grain; they will leave carrots for parsnips; they will leave Ruta Baga for carrots; they will leave Mangel-wurtzle for Ruta Baga; they will leave potatoes [both being raw] for Mangel-wurtzle. A white turnip they will not touch, unless they be on the point of starving. They are the best of triers. Whatever they prefer is sure to be the richest things within their reach. The parsnip is, by many degrees, the richest root; but, the seed lies long in the ground; the sowing and after culture are works of great niceness. The crop is large with good cultivation; but, as a main crop, I prefer the Ruta Baga, of which the crop is immense, and the harvesting, and preserving, and application of which, are so easy.

The farm I suppose to be in fair condition to start with. The usual grass seeds sown, and so forth, and every farmer will see, that under my system, it must soon become rich as any garden need to be, without my sending men and horses to the water side to fetch ashes, which have been

brought from Boston, or Charleston, an average distance of seven hundred miles! In short, my stock would give me, in one shape or another, manure to the amount in utility of more than a thousand tons weight a year of common yard manure. This would be ten tons to an acre every year. The farm would, in this way become more and more productive; and, as to its being too rich, I see no danger of that; for a broadcast crop of wheat will, at any time, tame it pretty sufficiently.

Very much, in my opinion, do those mistake the matter, who strive to get a great breadth of land, with the idea, that, when they have tired one field, they can let it lie, and go to another. It is better to have one acre of good crop, than two of bad or indifferent. If the one acre can, by double the manure and double the labour in tillage, be made to produce as much as two other acres, the one acre is preferable, because it requires only half as much fencing, and little more than half as much harvesting, as two acres. There is many a ten acre of land near London, that produce more than any common farm of two hundred acres. My garden of three quarters of an acre produced more, in value, last summer, from June to December, than any ten acres of oat land upon Long Island, though I there saw as fine fields of oats as I ever saw in my life.—A heavy crop upon all the ground that I put plough into, is what I should seek, rather than to have a great quantity of land.

The business of caring manure from a distance, can, in very few, if any cases, answer a profitable purpose. If any man would give me even horse dung at the stable door, four miles from my land, I would not accept of it, on condition of fetching it. I say the same of spent ashes. To manure a field of ten acres, in this way, a man and two horses must be employed twenty days at least, with twenty days wear and tear of wagon and tackle. Two oxen and two men do the business in two days, if the manure be on the spot.

In concluding my remarks on the subject of Ruta Baga, I have to apologize for the desultory manner in which I have treated the matter; but, I have put the thoughts down as they occurred to me, without much time for arrangement, wishing very much to get this first part in the hands of the public, before the arrival of the time for the sowing of Ruta Baga this present year. In the succeeding parts of the work, I propose to treat of the culture of every other plant that I have found to be of use upon a farm; and also to speak fully of the sorts of cattle, sheep, and hogs, particularly the latter. My experiments are now going on; and, I shall only have to communicate the result, which I shall do very faithfully, and with as much clearness as I am able. In the meanwhile, I shall be glad to afford an opportunity, to any persons who may think it worth while to come to Hyde Park, of seeing how I proceed. I have just now [17th April] planted out my Ruta Baga, Cabbages, Mangel-wurtzle, Onions, Parsnips, &c. for seed.

I shall begin my earth burning in about fifteen days. In short, being convinced, that I am able to communicate very valuable experiments; and not knowing how short, or how long, my stay in America may be, I wish very much to leave behind me whatever of good I am able, in

return for the protection which America has afforded me against the fangs of the borough-mongers of England; to which country, however, I always bear affection, which I cannot feel towards any other in the same degree, and the prosperity and honour of which, I shall, I hope, never cease to prefer before the gratification of all private pleasures and emoluments.

From Sinclair's Code of Agriculture. ON DRAINING.

Relieving land from superfluous moisture, is one of the most important branches of husbandry. Unless that be accomplished, every other improvement, of which the soil is susceptible, must often be unsuccessfully attempted. Fortunately, no department in agriculture, has been of late more anxiously studied, nor with greater practical success.

The basis was laid by the discoveries of a farmer in Warwickshire, (Joseph Elkington,) who was led to it by an accident.* It is a happy event for society, when such accidents occur to those, who have sense sufficient to avail themselves, of hints thus fortuitously suggested.

In discussing this subject, the following particulars shall be considered: 1. The advantages of draining; 2. The causes of wetness; 3. The sorts of drain commonly used; 4. The instruments employed; and 5. The modes of draining the different soils, and the objects to which that improvement is applicable.

1. Advantages of Draining.

The benefit of draining is experienced, 1. In arable land; 2. In grass; 3. In woods and plantations; 4. In the improvement of wastes; 5. In the climate; and, 6. in various miscellaneous particulars.

* In the year 1764, Elkington began to drain some fields on his farm of Princethorpe, which were so extremely wet, that it occasioned the rotting of several hundreds of his sheep. He had dug a trench for that purpose about four or five feet deep, which did not however reach the principal body of subjacent water, from which the evil arose. By accident, while he was deliberating what was to be done, a servant was passing with an iron crow or bar, for fixing sheep hurdles in an adjoining part of the farm. Having a suspicion that his drain was not deep enough, and desirous to know what sort of strata lay under it, he took the iron bar, and forced it down about four feet below the bottom of the trench. On pulling it out, to his astonishment, a great quantity of water burst up through the hole thus made, and ran along the drain. This led him to the knowledge, that wetness may often be produced by water confined farther below the surface of the ground, than it was possible for the usual depth of drains to reach, and that an augur would be a useful instrument to apply in such cases. From his success in this, as well as other modes of draining, and the readiness with which he communicated the principles on which his operations were conducted, to the Board of Agriculture, the British parliament granted him a reward of one thousand pounds. He taught his art to Mr. Johnstone, who has drawn up a valuable treatise on the subject, from which much assistance has been derived in preparing this section.

1. *Arable Land.*—While land remains in a wet state, the manure laid upon it, is, comparatively speaking, of little use; the seed sown often perishes; the crops are sickly, and later of ripening; and the operations of harvest are attended with uncertainty and danger; whereas, when land is thoroughly drained, it can be ploughed at any season with advantage; it is easily managed and kept clean at a moderate expense; every exertion of good husbandry is attended with success; it suffers less from the inclemency of the seasons; the produce is generally ample; the quality of the grain is excellent; and the farmer will thrive, where his predecessor, cultivating a wet and undrained soil, was impoverished, or perhaps totally ruined.

2. *Grass Land.*—The beneficial effects of draining on grass land are also very great. Rushes and other aquatic plants soon disappear; the finer grasses rise in abundance; the pastures maintain a greater number of cattle and sheep; the stock becomes superior in size and quality, and less subject to disease; that destructive malady, *the rot*, so fatal to sheep, is prevented; and if the land be mown, the hay produced is so much improved in quality, as to be doubly valuable.

3. *Woods and Plantations.*—Draining is likewise an improvement of the most essential consequence to plantations, where they do not consist of aquatic trees. Land, intended for planting forest trees, if wet, particularly requires draining; for the roots of trees, penetrating deeper than those of any other plants, the necessity of removing the *under*, as well as the surface water, is evident. Where this has been attended to, the plantations thrive, and the trees grow to a considerable size, much faster than can otherwise be expected.

4. *Improvement of wastes.*—The improvement of wet moors, must be preceded by draining, stagnant water being injurious to all the valuable classes of plants. Care in particular should be taken to render the land dry, before the application of lime, dung, or compost, otherwise the attempt will be ineffectual. At present, commons lying waste, are, in respect of drainage, in a most wretched state. The soil, in the first instance, absorbs as much water as it can contain, and the surplus water remains on the surface, in a stagnant state highly injurious to the healthiness of the neighbourhood.

5. *Melioration of Climate.*—By the removal of stagnant water, and the prevention of noxious exhalations, the climate is rendered more healthy and genial, both to animal and vegetable life. Indeed, since the introduction of draining into this country, agues, and other similar distempers, occasioned by the humidity of the soil, and the consequent impurity of the atmosphere, have been prevented, in a great measure, and the general health of the inhabitants has been greatly improved. Much water is discharged into the atmosphere, by spouty land, through the aquatic plants and coarse herbage which it carries: and it is a curious and important circumstance, in an experiment recorded, that while the air immediately above a wet soil, was only 57° of Fahrenheit, the dry part of the same field, and of similar soil, was about 100°.

6. *Miscellaneous advantages.*—The drainage of one tract of land, may likewise furnish water by which the accommodation of another may be promoted for various useful purposes; as, for irrigation; for mills, and other machinery; for supplying houses, ponds, enclosures, canals, or artificial navigations. By peculiar modes of applying the arts of draining also, the quantity of water found in mines and quarries, may be diminished, either by cutting off the resources above, or by letting down that which often impedes their working into a porous stratum below.

On the whole, there is no means by which the value of land can be advanced, or from which when usefully applied, so many advantages can be derived, at a moderate expense, as that of draining. The owner is benefited by an increase of rent; the occupier by that of produce; and the public, by being thus supplied with greater quantities of the most essential commodities, and by having a source of useful employment furnished to the labouring classes of the community. Unfortunately, both in England and Scotland, the greater part of the counties stand more in need of draining than of manuring; and there are very few districts where a knowledge of this essential means of improvement, is so general or so perfect as it ought to be.*

* There is, probably, no agricultural process, which has been the subject of more injudicious remarks, among the people of this country, than that of draining. An undue importance has been attached to it on the one hand, while no importance at all has been given to it on the other. In a country like America, where labour is scarce and dear, and lands are plenty and comparatively cheap, the truth would seem to lie between these extremes. Labour with us is a given quantity, and very limited, too in its amount. The great question among us ought, therefore, to be, how this given quantity of labour can be most economically and profitably employed. If the amount of labour at our command, will afford us a greater return of profit, if expended on our dry, than it would on our wet lands, then certainly every principle of economy would require us to put it on the former, rather than the latter. If the return would be equal, then other circumstances, besides more profit, must determine us what course to take. Now it is an unquestionable fact, that we have not a sufficiency of labour to cultivate our dry lands to the greatest advantage; and it is another unquestionable fact, that the same expense, generally speaking, put upon our dry, or up-lands, will afford a greater return of profit, than if put upon our wet lands. If so, the conclusion is irresistible, that we ought, with our present supply of labour, to cultivate our dry lands, to the neglect of our wet, rather than our wet lands, to the neglect of our dry; nor is the conclusion less irresistible, that we cannot cultivate our wet lands, unless we do, at the same time, neglect our dry lands.

Although the question of draining, on an extensive scale, would thus appear to be conclusively settled, it by no means follows, that draining can in *no case* be attempted with advantage. It may often happen, and actually does happen, that the situation and other circumstances of a

piece of low, wet ground, are such as would justify an attempt to drain it, even on a most rigid adherence to the principles just laid down. It may be in the vicinity of a large town, where the value of land is so great, that the expense of draining would be amply reimbursed. It may be situated near one's house, or barn, where the comparative value of land is much enhanced by that particular fact, and the land would, if reclaimed, be of more advantage to the proprietor, than other land purchased and improved with the same cost. It may be so situated as to be not only useless, but a nuisance, the removal of which might be necessary to the due cultivation of adjoining lands, or the profitable enjoyment of other privileges. But the making of such lands more productive, is not always the only motive which would justify the draining of them. A regard to health, mere convenience, and decent appearance, will sometimes require that the process be undertaken. As it respects the first, if it do but clearly appear, that the draining of such lands will contribute to its preservation, there surely can be no question as to the expediency of the measures. As it respects convenience, of that every one must be his own judge, whether the convenience will equal the expense in a particular case, or not. All that needs to be here said of that is, cases do often occur in which draining is of very great importance in that respect. With regard to decency of appearance, it may be observed, that on almost every farm of any considerable size, there are found detached pieces of wet, boggy, poachy land, inconsiderable perhaps in extent, but which are an incumbrance in the way of improving the adjoining land, and greatly disfigure the general appearance of the farm. It may be asked here, what if the farm is disfigured; is appearance *profit*? It sometimes certainly is; it is *always* worth *something*! and, though like other things of value, it may be purchased at too dear a rate, it does not follow that it is *always* so acquired. One thing is clear, account for it as we will, a slovenly farmer is seldom a thrifty one, and a nice, neat, and tidy farmer is seldom an unthrifty one.

Let it be taken, then, for granted, that draining, on a limited scale, may be attempted to advantage in this country: the question occurs, what is the best mode of doing it? The author of the Code of Agriculture, has treated of two kinds of drains, the open and the covered. It is believed, that in this country, where the expense of making them would be so great, and where land is so plenty, the saving of ground by means of covering the drains, cannot, in general practice, be any object. Nor does it appear that any advantage is derived from such drains, on account of their accomplishing the main object more effectually. No further remarks, therefore, will here be made respecting drains of that description; but what is said, will be confined to open drains, as it respects their size, and the manner of making them.

Our drains are almost universally made both too narrow and too shallow. By being narrow, frosts and the treading of cattle, soon fill them up, and the expense of making them is thus thrown away. This evil is increased by leaving,

general law of nature appears to be, that no living organized being shall exist beyond a limited term of years; and that law must be obeyed. It is, nevertheless, in the power of man, to extend the lives of individual vegetable beings far beyond the period assigned by nature; and parts of the same annual plant may be preserved through many years, perhaps through ages, though it cannot be rendered immortal.

I have quoted in a former communication, the statement of Columella, that cuttings from bearing branches of the vine did not afford durable trees; and this fact appears to have been known at an earlier period; for Virgil, whose practical knowledge of planting and grafting, was probably very limited, and who, therefore, may be supposed to give the opinion of some previous writer, has directed the planter not to choose cuttings from the upper branches of trees:

"Neve flagella

"Summa pete aut summa destringe ex arbore
"plantas." GEO. lib. ii. 299.

As the roots of trees elongate, like the branches, by parts annually added to their previous extremities, it appears probable, that the powers of life would become expended as soon in the points of the *roots*, as in the *bearing branches*. Experience, however, warrants a different conclusion.

I obtained plants, from some detached parts of the extremities of the *roots* of old ungrafted pear and apple trees, and as soon as these were large enough to afford grafts, I selected other grafts of similar size from the *bearing branches* of the *same trees*, and some of *each* were inserted in *similar stalks*, and in several instances, two in the same large stalk; and whenever inserted, the grafts which had been taken from the bearing branches, proved, *by no means*, able to contend with their more hardy, vigorous rivals. The latter produced thorns like those of young seedling trees; and although other circumstances lead me to believe, that trees raised from roots in the manner above-mentioned, will not live as long as seedling plants; I am nevertheless confident, that they will live very long, and afford much more hardy and productive trees than can possibly be obtained from the *bearing branches*. Similar experiments, with the same results, were made with grafts of a plum tree.

Duhamel has stated the original tree of the Charmonthelle pear, to have been alive and in health, later than the middle of the last century; and as the tree was not then very old, for a pear tree, it is probably still living. If plants could be obtained from its roots, they would prove a valuable acquisition to the gardeners of France, and one of still more value to the English gardeners; for we possess no winter pear of so much merit and long duration, which succeeds so well without the protection of a wall.

I am not by any means satisfied that the original tree of the Ribstone Pippin, is not now growing in England; and that the seed from which the first tree sprang, and not the tree itself, came from France; for I have never seen any plate of it, nor description of any apple very like it, in any foreign catalogue. A cutting from the root of the supposed original tree, might, I conclude, readily be obtained, and no

effort to preserve so valuable a variety ought to be omitted. Coe's Golden-drop Plum, if it be an English seedling, is most amply entitled to the same care; and the possessor of the asserted original tree, may prove his claim to the honour of having raised it (which I have here questioned) by raising trees of the same variety from its roots.

No further care or trouble is necessary to insure success, than to obtain cuttings of the root in the autumn, (November) about a foot long, and not less than a quarter of an inch in diameter. These should be planted so deeply, that no more than half an inch in length of each cutting should appear above the soil. I have usually placed the cuttings under an east or west wall, and have perfectly succeeded with those of the pear, the apple, the plum, and cherry, the only kinds of fruit trees which I have hitherto subjected to such experiments.

TRANSLATED FROM THE FRENCH.

Process for extracting Spirit from Potatoes, practised in Austria.

The following operation is practised with success, in a particular province establishment, near Vienna, in Austria. As it is easy, lucrative, and within the reach of all cultivators, we think it useful to give, here, the exact process.

Take one hundred pounds of potatoes, well washed, cooked by steam, and mashed under a roller; then take four pounds of malted barley, dried and ground in a mill. The process is commenced by diluting the malt in a little luke warm water, which is then thrown into the tub, or vessel for fermentation; twenty-five pounds, or pints, of boiling water are then poured in on the malt, all which is to be well stirred. The mashed potatoes are then added, and the whole is stirred with paddles of wood, until the several particles of each ingredient appear equally dispersed through the whole mass.

Six or eight ounces of brewer's yeast are then diluted in about 225 pounds of water, more or less heated, so that the whole mass shall assume the temperature of 12 to 15 degrees of *Reaumur*, to all which is then added, from six to eight ounces of good brandy.

The fermentation tub ought to be placed in a cellar, or in any close place whatever, where the temperature may be kept, by means of a stone, at 15 or 18 degrees—the mixture is then to be left tranquil. It is necessary, that the malt tub be sufficiently large, to admit of its contents rising at least six or seven inches, without overflowing. If, in spite of this precaution, it should overflow, it will be necessary to take out a little, which may be put back when the mass begins to subside. The tub is then re-covered, and the fermentation is to finish quietly, and generally lasts five or six days. When the fermentation has terminated, may be known by this: when the tub is uncovered, nothing is seen but a clear liquid, the potatoes having fallen to the bottom. It is then drawn off and distilled.

The distillation is made by steam, (*se fait à la vapeur*) with a still of wood, or of copper, constructed on the Rumford plan. The produce of the first distillation is redistilled. When the fer-

mentation has been good, one may expect to obtain, from a hundred weight of potatoes, five or six pints of brandy, the strength of 20 degrees of the areometer, (an instrument to measure the strength of liquor.) This spirit preserved during some months, in barrels, or new pipes, and then slightly (*caramalee*) coloured with burnt sugar, as French brandy is, will sustain a competition with brandy made of wine, of common quality. It has a natural taste without any burnt flavour.

The proprietor of this distillery, prepares and distills one thousand pounds of potatoes per day in two operations, of five hundred pounds each; which gives him about sixty pints of good brandy. One may judge from that experiment, what would result from it in operation through the whole year.

The residue of the distillation is employed in the feeding of cattle, which drink it with pleasure diluted; and it is found to augment the milk of cows. Sixty sheep consume about five pints of *boullie* each, per day—half in the morning, and the other half in the evening.

The quantity of malt necessary for the fermentation, is ground every week.

BALTIMORE:

FRIDAY, MAY 7, 1819.

LIVE STOCK.

THE HOG.—The prolific nature of the hog, its rapid growth, the excellence of its flesh, as food for man,* and the small proportion of offal which it throws off when killed and managed with skilful economy, have justly obtained for this animal an eminent rank amongst our domestic quadrupeds.

The raising of the hog, may be advantageously made to constitute a part of a well regulated system, in almost all of our agricultural operations, as well as in several other establishments, not immediately connected with the cultivation of land. In the economical management of dairies and distilleries, for example, a certain proportion of swine may be considered indispensable. These establishments afford great quantities of sour milk slops, and other refuse matter, which could, in no other way, be converted into anything useful; yet they are found to be very nutritious to hogs, and when mixed with small portions of more substantial food, are quite adequate to sustain and bring them on to the most desirable size and fatness.

In England there are reckoned not less than twenty different breeds of hogs, which are selected, according as they are adapted by their peculiar characteristics to particular districts, and the food on which it is proposed to rear them. But we do not see any mention of the *Byfield* breed,

* Among the Greeks of old, the *athletæ*, or wrestlers at the Olympic Games, regularly underwent a course of diatæctic discipline, previous to their public contests. The diet consisted chiefly of animal food; *pork* was preferred. Galen says, that if they lived for a day on any other kind of food, they perceived a diminution of strength.

though our researches, from want of leisure, have been limited.

In some future number, we shall devote to this subject a more extended consideration. We shall treat of the natural history of the hog;† of the various breeds, the best course of feeding, and the several modes of curing and preserving the meat; for, although it may be thought that the subject is already well understood, in all these points of view, it may be affirmed, that few of us are so wise, and so few things so well understood, but that some accession of knowledge may be gained by a comparison of different practices and customs, in different parts of the country; our present object, however, is merely to spread before our Maryland and southern readers, the following notice of *ten hogs*, fattened and killed lately in Boston. Let it be contrasted with anything of the same kind in this quarter. It will be seen, that of the *ten hogs*, there was but one that did not weigh a *pound for every day* it had lived, and many of them considerably more than that.

What must, however, most particularly strike every observer, is the great saving of food, which must attend the raising of a breed of hogs, which get their growth in *so short a period*. In this part of the country, it is well known to be the custom to feed a hog *through one winter*, and until December in the next, before he can be made to weigh 120 or 130 pounds, which is as large as, for family use, is thought to be desirable. Now, supposing the increase of these Boston hogs to have been in regular progression, they must have weighed 150 pounds when they were *only six months old*. We venture to say, that the hogs killed in Maryland, for pork or bacon, do not average 150 pounds each, and that their average age is at least sixteen months; and we have not the least doubt, that many farmers of this state, some of whom may smile at the particularity of these observations, on a matter which they may suppose requires no elucidation—we say, we have no doubt that if many of them would only take the trouble to make a little *calculation* of the expense of raising their hogs, taking into the account the labour they occasion, as well as the actual value of the food they consume, they would find, that in this account, to use a vulgar saying, “they do not save their bacon”—that, like the Indian’s gun, “it costs more than it comes to;” and this left-handed management will be found, on examination, to consist in an utter disregard of the qualities of their breeding stock, and their wasteful and utterly inconsiderate *manner of feeding*. And here let us repeat what probably we shall reiterate a thousand times over,

† Different species of animals approximate sometimes so nearly, that the line of distinction can scarcely be discerned. The hog is a remarkable example of this—in number of teeth it resembles the horse, and in having only one stomach. In the position of its intestines, and the shape of its hoof, it is like the cow-kind: it resembles the claw-footed kind, as the lion, the dog, and the cat, in its propensity to eat *flesh*, in its numerous progeny, and in chewing the cud. Swine, therefore, may be said to occupy an intermediate situation between the carnivorous and the herbiferous—inoffensive, like the latter; and, in some respects, ravenous, like the former.

the farmer should habituate himself to making nice *arithmetical calculations of the cost of every thing*; how else can he know the neat profit, or loss, of any thing he consumes or sells?

If, as it would appear by the subjoined account, a breed of hogs may be had, which, being pigged in April or May, in the spring tide of vegetation, will weigh as much in the December following, as our ordinary breed, which require to have been kept and *fed through the preceding winter*; the farmer may easily calculate the saving of expense, to be gained by the acquisition of such a stock. It is apparent, that the rapid and early fattening, and growth of the hogs here spoken of, must be the effect of some peculiarity in their *breed* or in their *treatment*; for every one knows that the cold climate of Boston, is not more congenial to the nature of swine, than the more southern latitudes;—whether, then, it results from superiority of the one or the other, it is equally desirable to be known. Under this impression, and with a desire to manifest the earnestness with which he has undertaken, as far as is within his limited means to aid in all endeavours to improve the agricultural prospects of his country, the Editor of the AMERICAN FARMER, has taken measures to procure the breed of those extraordinary hogs. They will be distributed amongst his friends in the country, at whatever price they cost; the only object being to disseminate the breed, no selfish considerations will be indulged, except that of always giving, in such cases, a preference to his patrons.

COMMUNICATIONS.

TO THE EDITOR OF THE AMERICAN FARMER.

SIR,

Observing in your paper of the 15th inst. a piece signed “*A Spinster*,” respecting the cleansing of poultry-houses from vermin, or chicken-lice,—for which information I think the public, as well as myself, are much indebted to her; and, to repay her for the gratitude which I feel, I will inform her, as a good house-wife, how she can keep her beds and bed-rooms clear of vermin, vulgarly called chinch bugs, with very trifling expense or labour.

Make a decoction of sassafras bark, or root, not so strong as to stain the furniture, and scald your bedsteads and the wainscoting of your rooms, once a year, and I will engage a chinch bug will never enter it. This I know from experience.

AN OLD MAN.

Calvert County, 30th April, 1819.

QUERY by the Editor.—Since this decoction is found to be so offensive to the vermin of various kinds, may it not be presumed that it would be found equally useful and effective in destroying, or driving off, the *fly*, which infests tobacco beds at this season, and proves so destructive to the plant? We hope some planter will try an experiment so easily made, and whereby, if it prove effectual, the greatest impediments to raising plants will be removed. We have been told, that *lime* has been used for this purpose, with success, by Mr. Benjamin Mead, of Calvert County; and we have it from good authority, that keeping the beds thinly covered over, until

this time, with leafless brush-wood, will keep off the fly. It would seem, that they cannot endure the *shade*, and that clear sun heat is necessary to their existence. But a decoction of sassafras roots, with the bark on, is so easily made and applied with a watering pot, that we repeat the hope, that its efficacy may be tested and made known.

TO THE EDITOR OF THE AMERICAN FARMER.

SIR,

I have thought, that an occasional essay, upon general morality, vindicating the providence of our Almighty Father, might not merely be consistent with the general plan of your paper, but acceptable to your readers. For though Agriculture, or rather its promotion, appears to be the prominent object of your pursuit, yet I have observed some well written articles upon other subjects, indicative of an intention not altogether to exclude that variety of speculation, so necessary to the gratification of the taste of every class of readers.

Mr. Cobbett, I think, has somewhere observed, very truly, that it is in Agricultural pursuits, where a man makes the most direct and emphatic appeal to the Parent of all good for a blessing upon his exertions. Who so likely then, to be influenced, by a consideration of his providence; who so likely to be brought to a constant reflection of their immediate dependence on him, as they, who, in pursuit of their regular vocation, are in the habit of making these *direct appeals*; and, who are so richly rewarded for their laborious co-operation with the Parent of Nature?

Man carries with him the crutch of dependence, from the cradle to the grave; both individually and collectively, as he recedes from the cultivation of the soil, he multiplies the occasions for its use, and increases the number of his patrons; his dependence on Deity becomes indirect; and his success in life, on casualties and contingencies, often, that he dare not court the favour of Heaven to bring about. But the tiller of the ground, who earns his bread by the sweat of his brow; who plants and waters, may, with religious confidence, partake of the fruits of his earnings—and in every process of vegetation, from the seed to the full ear, sees causes of admiration and of thankfulness to the bestower.

That the farmer is the most independent, those of every other pursuit admit; that he is the most useful to all, is equally certain; and for these reasons he appears to be in possession of peculiar advantages—and if he has a mind and a disposition to profit, spiritually, from his vocation, few men have so great or so frequent opportunities. Doctor Young has said, that an *undevout astronomer is mad*. The line is as applicable to the farmer as to the astronomer; for the uniform and regular returns seasonably bestowed upon him, in reward for his labours, furnish a constant argument in favour of the goodness of his Creator; and the mystery of vegetation, of his unbounded wisdom. His infinity is traced, in the multiplication and diversity of his productions—and his wisdom, again, in their peculiar fitness—nay, this *fitness of things* bespeaks his constant presence.

I have said, if the farmer chooses to profit

spiritually, from his vocation; if he has a mind to be operated upon—if he inclines to “look through nature up to nature’s God,” every blade of grass affords a medium, and every kernel of grain a subject of devout speculation, fortifying to his faith and confidence in Deity.

CINCINNATUS.

*Present Prices of Maryland Produce in the
Baltimore Market.*

The last advices from abroad have had a tendency to depress, in some degree, the prices of tobacco, which, during the last week, had been looking up. From Bremen, advices received to the 24th March, at which time, it is stated, that 650 hogheads Kentucky tobacco had been sold at an average of 6 1-2 stivres; Virginia is quoted at from 7 to 13, and Maryland good, with a good proportion of coloured, is quoted at 12 5-8 stivres.

A stivre may be estimated at two cents, but an allowance of 40 per cent. discount, is to be made for costs and charges and drawbacks, of various kinds; the neat proceeds may be reckoned at the average rate of 13 cents for 11 stivres.

TOBACCO—Patuxent, of good quality, from 11 to 13; three hogheads from the neighbourhood of Friendship, in Anne Arundel county, sold this week, for \$13; wagon tobacco, from \$13 to 16; Eastern Shore, \$9 to 10; Potomac, \$8 to 10.

CORN, white, three loads from Eastern Shore sold for

Yellow, 55

WHEAT, white, \$1 50

red, 1 40

FLOUR, from the wagon, 6 50

RYE, 90

OATS, per cargo, 45 to 50

BEEF, butcher’s 12 1-2 cents; Mutton, 12 1-2 do.; Veal 12 1-2 do.; Veal, per quarter, from the country, \$1 to 1 50; Potatoes, retail in market, \$1 per bushel; Eggs, 18 3-4 per dozen;

Butter, very little fit to eat, best, 50 to 62 1-2 cents per pound; Fowls, \$1 25 per pair.

Foreign Intelligence.

Liverpool, April 2.

The Velocipede, alias Accelerator, alias the Pedestrian’s Hobby Horse, alias the Tracena, &c. &c. has been fully described, with an accompanying engraving, in a recent number of the *Mercury*, and subsequently in the *Kaleidoscope*. We some time ago predicted, that it would soon be all the rage: and we now find that it is becoming more general every day. We find that one has been manufactured in this town, from the description given in the *Mercury*; and that it has been found to answer beyond the expectation of the makers.

The Ghent *Journal* affirms that the generals Rigaud and Grouchy, are on the eve of returning to France from America. The French government are taking decisive steps to re-establish the fortresses which the Allies had dismantled: 360 pieces of cannon have been ordered from La Rochelle to the eastern frontier, and above 500

condemned pieces had been sent to the foundry of Strasburg to be recast.

A person who left Cadiz on the 13th ult. and who is now in Paris, has communicated the following details relative to the expedition about to be sent to Buenos Ayres:—

“The number of troops is about 13,000, including infantry and cavalry, and already occupy their cantonments in the neighbourhood of that port. Count d’Abisbal (O’Donnell) who commands in chief, and who is appointed Viceroy of Buenos Ayres, assembled in Cadiz 15,000 on the 28th of January last, the day appointed to celebrate the interment of her Majesty, the late Queen. He reviewed them in the place of St. Antoine, in the presence of a considerable body of spectators, which increased the splendour of the ceremony, and who all admired the equipment and steady discipline of the troops.

“All the generals who are attached to the expedition, are at this moment assembled in Cadiz. General O’Donnell is incessantly occupied in enforcing every precaution necessary to accelerate its departure, called to such an important destiny, and which will, without doubt, be the finest that ever left the ports of Spain. The troops are animated with the best spirit, and every thing excites the most pleasing hopes.—*Jour. de Debats.*”

Latest from South America.

The ship *Sachem*, arrived at New York on the 3d instant, from Buenos Ayres, whence she sailed on the 10th of March. Mr. W. G. D. Worthington, Esq. of this city, late consul at that place, arrived in this vessel, and has communicated an interesting detail of recent occurrences in South America. It was reported, that the United States’ frigate, *Macedonian*, arrived at Valparaiso, about the beginning of February.

The president’s message had been received at Buenos Ayres, and some remarks made upon it in the papers. They seem to attribute the non-recognition of their independence by the United States, to the impression which has been made this side the tropics, respecting their party dissensions. They expected, that their sovereignty would have been acknowledged in consequence of the favourable report which they anticipated from the commissioners to the congress, but they did not appear to bear the disappointment in an improper manner.

Chili was, by the last accounts, freed from the Royalists. Sanchez, who commanded there, after being beat at Santa Fe, had retired amongst the American Indians. On the 14th Jan. Lord Cochrane sailed from Valparaiso with his squadron; consisting of the *Maria Isabel*, (the frigate taken from the Spaniards) the *San Martin*, the *Santero*, and the *Chacabuco*, supposed with the intention of touching at Arica, Callao, &c. and to capture or burn the shipping at the latter place, as they had on board a large store of rockets, and provisions for four months. It was thought this naval expedition would give life and ascendancy to the patriots in Lima. Captain Woster, of the *Lautaro*, the real hero of the late naval success in Talcahuana bay, had resigned; Lord Cochrane was fond of him, and wished him to remain. His place was filled by Capt. Grise,

of the British navy; so that the marine of Chili is now wholly commanded by Englishmen. The British frigate, *Andromache*, which was said to be taking off from Lima, about \$5,000,000 perhaps, bound to Rio Janeiro, it was suspected, would be intercepted by Lord Cochrane, under the pretence or doctrine that she was violating her neutral character.

BOSTON PRODUCE.

There were lately slaughtered in the town of Boston, ten Hogs, or rather Pigs, for they were but one year old, on the day they were killed, which, when slaughtered, weighed as follows:—

1	394	6	369
2	392	7	369
3	391	8	368
4	390	9	365
5	369	10	356

Total, three thousand seven hundred and sixty-three pounds. Besides 195 lbs. of rough fat taken from the intestines. These animals were pigged in that town, and purchased, when five weeks old, by Mr. Enoch Patterson, inn-keeper in Elm street, and by him fatted in his stable yard. Until November last, they subsisted on the wash and refuse of the kitchen, and since then, have only consumed about ninety bushels of corn and meal. They were of the most modern improved breed; and were viewed by numerous spectators when alive, who not only expressed their surprise at their extreme fatness, and fine form; but at the cleanliness and economy with which they were reared. It is understood that they were sold for \$451-56.

FROM A FRIEND TO THE EDITOR.

Dated—Boston, April 26, 1819.

Dear Sir,—I have seen Mr. Patterson, who owned the ten hogs mentioned in the notice you enclosed me. He says, that in April last year, he purchased ten barrow pigs, from two litters, owned by the same person, the offspring of a male of the Byfield breed, and of females of a mixed breed. They were taken from the sows when about five weeks old, and kept in a pen under cover, not more in capacity than 200 square feet, occasionally washed, so as to be kept constantly clean, and fed with the swill and refuse bread and meat of his kitchen [a tavern] until November, when a sufficiency of meal was added, to keep them quiet, until January; he then gave them meal wet with the wash of the kitchen, three times a day, and dry corn once, taking care to give them each time as much as they would eat, and no more. It seems, that much depends on keeping them clean, dry, and warm, in cool weather; and cool in hot weather; for his pen is under a shed, where they are always in the shade—this, together with feeding them frequently and equally, so as constantly to give them as much, and no more than they will eat, seems to be the great mean of quick and fat growth.

The Byfield seems to be the most approved breed in this vicinity. If you wish, I will endeavour to procure a pair of this kind for you.

PUBLISHED BY J. S. SKINNER.

American Farmer.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . Virg.

VOL. I.

BALTIMORE, FRIDAY, MAY 14, 1849.

NUM 7.

AGRICULTURE.

FROM SINCLAIR'S CODE OF AGRICULTURE.

ON DRAINING.

(Concluded from No. 6, page 45.)

To proceed, with any prospect of success, in the art of draining, it is necessary to ascertain the causes which produce wetness in land, and the different appearances which, according to soil and situation, it assumes. These causes are, 1. Surface-water; 2. Soils absorbing and retaining a superabundant quantity of moisture, either from their own texture, or the quality of their subsoils; 3. Land springs from surface-water; 4. Springs from subjacent water; and, 5. Back-water from ditches or ponds.

1. *Surface-water.*—On clay soils, wetness is commonly produced by surface-water. These soils are of different kinds, varying both in their colour and texture; but they all possess, in a greater or smaller degree, those adhesive qualities, which retain the water that falls upon the surface, until it is either drawn off by art, or exhaled by the sun and the atmosphere. Such soils, therefore, require the aid both of surface, and of underdrains, to relieve them from superabundant moisture.

2. *Absorbing Soils.*—Loamy soils absorb water freely, and swell with it. They usually retain, however, a greater quantity than is necessary. This is particularly the case, when they have a strong and impervious subsoil, through which no water can penetrate. As this surplus quantity is highly injurious to vegetation, it ought to be got rid of. Sandy soils, on a retentive bottom, also require draining, the water, as it cannot descend lower, being lodged in the upper stratum; but there is seldom a necessity to go deeper than a few inches, into the clay, on which the upper soil is incumbent.

3. *Land Springs.*—In many cases, soils are greatly intermixed, and changes of sand and clay, or substances that are porous and retentive, will be found in the same field. Draining, in such cases, is attended with more difficulty, and requires more skill, than where the surface and internal strata are thick, and regularly disposed. The means by which this can be best effected, at a moderate expense, is to ascertain the quality of the soil, by examining its produce. The porous soils collect reservoirs of water, which augment in times of rain, to the full level of the surrounding clay, from which it bursts out, and forms a kind of temporary spring, which renders the land, over which it flows, wet and unproductive. It then, perhaps, is absorbed by another porous stratum, and produces similar effects.

Formerly, this mischief was endeavoured to be remedied by small drains, made over the whole field, which seemed thus to be equally affected; but by cutting a trench, from the nearest and lowest part of the field to be drained, up to the highest and most distant sand-bank, in such a direction, as to pass through the intermediate sand beds, the soil is radically cured. Besides these main drains, however, side-cuts are often necessary.

4. *Springs from subjacent water.*—A knowledge of the causes, and the nature of springs, arising from subjacent water, is so closely connected with the principals of draining, that it is necessary to explain it at more length. The earth is known to be composed of various strata, which being in their nature and quality of opposite consistence, have acquired the distinguishing names of *porous* and *impervious*. Sand, gravel, calcareous earths, and various kinds of rock, the parts of which are separated by frequent clinks and fissures, are denominated *porous* soils; clay, shale, till, and certain kinds of gravel, with a mixture of argillaceous and cementing particles in their composition, and rocks of a solid and compact nature, and without fissures, are the principal strata that resist the admission of water, and are thence termed *impervious*. It is evident, therefore, that springs must originate from water falling, either in the shape of rain, or dew, or the melting of snow and hail, upon such porous and absorbent bodies; and that the water subsiding downwards, until it is obstructed in its passage by these impenetrable substances, there forms reservoirs of considerable magnitude, which afterwards burst forth in all those different appearances which are met with. Thus springs are formed, the strength of which must depend upon the extent of high ground which receives and retains the rain-water, the size of the reservoirs, and the supply they furnish.

5. *Back-water.*—A frequent cause of wetness is, the stagnation of water in the ditches that surround fields, particularly such as lie in the upper side of the enclosure, where the water, being confined, finds its way downwards into the open parts of the subsoil, and oozes out to the surface, forming, in wet weather, all the appearance of, and producing nearly the same effect as, a natural spring. Water conveyed in a drain, or small stream for mills, or confined in a mill-dam, or pond, has often the same effect. Where this happens in drains, the stagnant water should be removed, by giving depth or declivity, to the ditch in which it lies. Where a dam occasions the mischief, a cut should be made on its lower side, to intercept any water that may ooze through it. Old marl-pits full of water, and cattle ponds improperly constructed, sometimes occasion this sort of mischief.

3. The sorts of Drains commonly used.

There are four sorts of drains; 1. The open; 2. The covered; 3. The arched; and, 4. The vertical, or pit drain.

1. *The open Drains or Ditches.*—These often answer the double purpose of conveying superfluous water, and of enclosing the fields; though they certainly make a hazardous and inconvenient sort of a fence, without the addition of a bank, a hedge, or a railing.

In cultivated land, where the ridges are of a proper length, breadth, and height, and the furrows of an adequate depth, and skilfully directed, much surface-water may thus be carried off; but where the country is flat, and the soil peculiarly strong, a complete drainage is absolutely essential, as the basis of its future improvement. The mode practised in "*the Curse of Gowrie*," a district in Scotland, containing about thirty thousand acres of rich clay and loam, has been attended with such great success, that it may be proper to explain it, as the same system may be applied to all tracts of clay similarly circumstanced.

1. The proprietors, by mutual consent, fixed on the most eligible lines for cutting large drains, from fifteen to twenty feet deep, (provincially, *flows*.) resembling small canals, for conveying the water collected in them, to the adjoining river. 2. Ditches, of a small size, were next drawn, surrounding and intersecting the farms, so as to serve for divisions of the different fields, the water of which they collected, and emptied into the large drain, or *flow*. The depth of these ditches was seldom less than four feet; their width, at top, six; and at the bottom, from one, to one foot and a half. 3. Where the fields are of a uniform level surface, the common furrows between the ridges if sufficiently clear, will keep the ground dry; but as the fields are seldom without some inequalities, the last operation, after they are sown and harrowed, is, to draw a deep furrow through every hollow in the field in such a direction, as to communicate with the other furrows that divide the ridges, and with the ditches at the extremities of the enclosures. These cross furrows, (provincially, *gaws*, or *grips*.) are opened by the plough, but widened, cleared out, and shaped by the spade, to enable them to discharge the water freely. To keep them clear, is a very essential part of the clay farmer's attention. The effects of the system of drainage, above described, are such, as to render the land so free and tender, that half the labour prepares the ground for the crop,—less seed is necessary,—less manure is required, and as neither drought nor damp have any impetuous effect upon the soil, an abundant crop may be expected in all common seasons.

The necessity of making these *water-cuts*, or

furrows, in wet fields, as soon as the plough leaves them, is strongly inculeated, as essential for the future dryness and fertility of the land. The cuts ought to be frequently examined, more especially after the melting of snow, to see that no impediment prevents the free passage of the water. The cutting of water-furrows, ought likewise, to be carefully attended to, after spring ploughing, to prevent water from lodging in any part of the field, however wet the weather; and, for that purpose, the head-lands should be cut through, where necessary, that water arising from any sudden flood, may have a free passage.—The spit of earth dug out of the water-furrows, should be laid on one side, opposite to the rise of the land, to prevent overflowing, and all the loose mould carefully shovelled out. This simple operation of *water-furrowing* is attended with such beneficial consequences, that wetness may often be removed by such means alone, without the aid of additional drains; while the omission of it, may not only lessen the crop, but injure the soil for many years afterwards.

Water-furrowing is likewise of great advantage in pasturefields; and the cuts, or furrows, ought to be carefully scoured out before winter. The water is thus prevented from lodging and soaking into the soil, which is then less likely to suffer from poaching, and the roots of the grass, not being chilled by superfluous moisture, will necessarily come forward earlier in spring.

In some districts, open drains are made of the subjoined shape,



and turfed to the bottom, so that there is no loss of herbage. No water ever stands in these drains, and a part of a county, (the Coventry estate in Worcestershire,) that, half a century ago was a mere morass, has now become, by means of these drains, perfectly dry, healthy for sheep, and fit for cattle. Mr. Johnstone recommends that these drains should not be ploughed with the rest of the field, but should always remain in grass; for, if loosened by the plough, the sides might be washed down, and the shape destroyed.

It is a general rule regarding open drains, with a view of giving sufficient slope and stability to their sides, that the width at top, should be three times as much as that which is necessary at the bottom, and in the case of peat-mosses, or soft soils, it should be still more. In regard to the fall or declivity, it should be such as to allow the water to run off without stagnation, but not with so rapid a motion as to injure the bottom.

In all drains, it is a rule to begin at the lowest place, and to work upwards, by which the water will always pass from the workman and point out the level. This enables the labourers also to work in coarse weather, and prevents their being interrupted by wet, so early in the season, as otherwise might happen.

It is much recommended to all farmers, in low and moist situations, frequently to perambulate their farms, for the purpose of examining the state of their drains, and discovering every obstruction; nor ought even the trace of the

mole, crossing an open drain, to escape their notice.

2. *Covered Drains.*—As open drains take up a great deal of surface, covered drains are in many cases preferred. Here we shall consider; The season for executing them; the mode of doing it; their size; whether hollow or filled; materials for filling; distance from each other; duration; the expense; the state of the ground and the impediments and enemies they have to encounter.

1. The summer is a good season for executing drains, because the labourers can then work with more comfort; the materials for filling can be more easily collected and conveyed; and more work can be done in a day. But in winter, labour is cheaper, and men can be more easily procured.

2. Drains intended to be ultimately covered, are sometimes made by the plough, as being the least expensive mode, and perfectly practicable, where the soil has no stones in it large enough to obstruct the operation. But only small drains can be made in this way; and when they must be deeper, spades of different dimensions must be employed. The additional expense is amply repaid, as the work is done more effectually.—The trench, however, is often begun by the plough, and finished by the spade.

3. The size of covered drains must be regulated by the quantity of water to be conveyed away. In point of width, there should only be room to work, unless from the softness of the soil, a greater slope is necessary. An over-width increases the quantity of materials requisite to be used in filling, which, in many situations, is an object of no small consideration. The depth should be such, as to allow a proper quantity of earth above the drain, that the materials in it, and what covers them, may not be injured by the pressure of the horses or cattle in the act of ploughing.

4. Covered drains are frequently hollow, where the run of water is large, or the materials good. This last is the case, when the drain is made of stones, either inserted in a triangular shape, or regularly built and covered by flags; or where common, or draining bricks, or pantiles are made use of. These are preferable to stone in two respects, that they can be more quickly and uniformly laid, and give less interruption to water than the ragged edges of stone. The sod, turf, or pipe drains also are not filled; nor the clay pipe drains. These, however, are better calculated for small aqueducts, for the conveyance of water, than for draining land; as, when finished, the water can have no access into them from without.

5. The materials for partially filling drains are numerous; as, *small stones*, which only answer for short drains, and are seldom effectual for any length of time; *turf*, or sods, which many recommend in preference to any other substance; *wood*, particularly old thorns, cut into billets, which are well calculated for soft or peaty soils, that are unable to bear the weight or pressure of stones; *green bushes*, not in leaf, (in some situations green willow is known to have lasted for ages;) *black thorn*, which is a favourite material in Essex; *heath* or *ling*, which has been found a durable substance; *fern*, *furze*, or *broom*; and where the drain is small, and better materials cannot be

had, even *straw*, either loose or twisted into ropes as thick as a man's leg. The durability of the materials, at the same time, is of less consequence in clayey soils, than the probability of having a sufficient opening for the water to flow through, for clay often forms an arch over these materials, capable of supporting the incumbent soil, and leaving a clear passage for the water below, when they decay. The materials must be covered with loose straw, fern, rushes, or turf, before the mould is thrown in. The drains should be filled up as soon as possible after they are ready for that purpose, and by the most careful of the workmen.

6. When the soil is very wet, it will be necessary to cut the small drains near each other; about sixteen or eighteen feet distant in common soil, and from eight to ten feet in the more stubborn. But deep and large ditches must be cut around wet fields, into which the water from the smaller drains, is to be conveyed.

7. When done with common skill and attention, drains will last for 20, 25, and 30 years, and in many cases, they have endured much longer.

8. The expense is calculated at from 20s. to 60s. per acre; except in very wet soils, where it is sometimes higher than even 60s.; but in most cases, the whole of the expense is repaid by the first arable crop.

9. The best period for making these drains, is, when the land is in grass, or in fallow.

10. Hollow drains have several enemies, as moles, field mice, the roots of trees, (in particular, the poplar and the ash,) and a plant which sometimes grows in them, intercepts the course of the water, by degrees weakens the current, and at last chokes up the drain.

3. *Arched drains.*—The expense of arched drains, of stone or brick, prevents their being adopted, unless where the ground is very loose, or where open drains are inadmissible. Where flat stones abound, drains covered by them, may in general be made large enough for every essential purpose.

4. *Vertical, or pit Drains.*—Drains of this description, may, on some occasions, be useful. If the spot where a confined reservoir of water exists, can be ascertained, which sometimes may be done by boring with an augur, sink a pit into the place, of such a size as will allow a man to work within its bounds, or about three feet in diameter, until it reaches the water meant to be brought up, which will rise as soon as the pit reaches it. The pit should then be filled with land stones, or pebbles, and the water be conveyed by a proper drain to some adjoining ditch, and thence to the nearest stream or river.

Spouts or springs also, rising in the middle of a field, may, on some rare occasions, be led into a pit sunk through the clay, and the water may thus escape downwards, into a porous substratum.

4. *The Instruments employed.*

The instruments employed in draining, are more numerous than is commonly imagined. The principal are—draining ploughs; the minor; the mole plough; spades of various sorts; the sod knife; and the auger.

1. The *common plough* is frequently used in draining, to open the trench; various sorts of ploughs have likewise been invented for that special purpose, and premiums given to the invent-

ors; but from the number of horses or oxen required to work them, ploughs calculated for *effecting hollow draining*, are more expensive than the spade, and never can come into general use.

2. In Lancashire, an instrument, called the *miner*, was invented by the late Mr. Eccleston. It is a ploughshare fixed in a strong beam without mould-boards, and is drawn by four or more horses, along the bottom of a furrow made by a common plough. Without turning the substratum, it penetrates into, and loosens the soil, eight or ten inches deeper than the plough had before gone; which operation, besides draining the land, renders the subsoil open or porous for several years, and causes to carry with it any noxious matters in the soil. This, in particular cases, is considered to be a useful practice, and the expense is inconsiderable.

3. A particular account is given, in a valuable work, of the first experiments with the *mould-plough* invented by Mr. Adam Scott. It was originally tried in the years 1795—6 under the auspices of the Society of Arts in London. The addition of wheels was then recommended, which has since been carried into effect. The accounts of the advantages resulting from this instrument are extremely contradictory. It has, no doubt, been very effectual, when well applied. It will succeed, where there is a regular stratum of clay or stiff marl; but not in loose, nor in mixed soils. Without wheels, it requires from ten to fourteen horses, the trampling of which must be extremely injurious to wet soils; but with wheels, the team may be reduced to six horses. A mechanical apparatus has been invented by Mr. R. Lumbers, of Risington Wick, in Gloucestershire, for working the mole-plough, by eight men, instead of twelve horses; and Mr. Rogers, of Wislington, in the same county, has invented another apparatus, the plough being moved forward by the revolution of a long lever and axle, by which one horse, or even poney, is sufficient for the purpose. The mole-plough can only be come generally useful, when it can be worked by a moderate power, whether with man or horses.

4. The spades used in hollow draining, are of a peculiar construction. The upper or *top-draining spade* is narrow at the end, and the spade used for the lower part, or bottom tool, is almost pointed. A scoop also is used for smoothing, and cleaning out the bottom of the drains, previous to the wood, straw, or other materials being put in. A breast draining spade has also been invented, and is found useful; it is the common paring spade, with both sides turned up; and is driven forward by a man in the same manner.

5. A *sod-knife* is useful in setting out the trenches, the workmen treading it in by the side of a line, five or six inches deep. It is more expeditious, and easier to the workmen than the spade.

6. The *borer*, or augur, used in draining, is very similar to that employed in searching for coal, or other subterraneous minerals.

5. *Modes of draining applicable to different soils, and the objects to which they are applicable.*

1. *Clays.*—The breadth of ridges in a clay soil, is a subject of great controversy. Some maintain, that all arable land may be effectually drained, by ploughing it into ridge and furrow, narrowing the ridges, as the wetness of the soil

increases; and that hollow draining is thus rendered unnecessary, except in springy soils, or peat bogs. It is, on the other hand, contended, that in all wet soils, ridges ought never to be less than eighteen feet; and if the soil can admit three gatherings, without barring the furrows, twenty-four feet is the preferable breadth. The great waste of land in the furrows, where the narrow-ridged plan is carried to any extreme, (perhaps 1-7 of the whole and upwards) is a great objection to it. In the dutchy of Lymburg, they prefer having covered drains in the furrows of a strong land, by which it is rendered at all times accessible to culture, and very little ground is lost. The celebrated Arbutnot practised that system near Mitcham, in Surrey; and an intelligent Scotch farmer, (Mr. James Andrew, at Tillylumb, near Perth,) has carried the same plan into effect, with the greatest success. He was formerly at the mercy of every season, and found none so dry, but that, in a certain degree, he sustained some injury; but since he has adopted the plan of a hollow-drain in every furrow, he can plough almost at any time; the seed can be put in, if there be but a single dry day; in the ordinary course of things, he can always rely upon a crop; and the soil being nearly of the same quality, and in a similar state, the crop is always equal.

2. *Loams.*—When loams are allowed to rest, they sometimes acquire a degree of cohesion little inferior to clay. They generally absorb water rather freely, and after retaining a proper quantity for vegetation, they allow the superfluity to run off, where there is a descent; but that operation is facilitated by small ditches, which, collecting the water, operate like veins, and convey it to an open drain, made for carrying it off.

3. *Meadow land.*—Along the sides of rivers or smaller streams, much valuable land is to be met with, injured by water. Sometimes land in this situation must be protected from the overflows of the river by embankments, as requires to be done with respect to the fine meadows in Derbyshire and Staffordshire, on the banks of the Dove; but it frequently happens, that by deepening the river or stream, or, in other cases, by making a new, straight, or deeper channel, a considerable addition may be made to the land, and the object of drainage effected. Sometimes the wetness arises from springs, which issue from the bottom of an adjoining high ground. With much ingenuity, Mr. Edward Webbs, of Stow, in Gloucestershire, has employed water, collected by the upper drains, to drive a wheel, by which the water is raised from the lower parts, and carried away.

Upland Pastures.—The draining of upland pastures is a most important branch of the subject. From the unwholesome quality of the plants produced on such pastures, where there is a superabundance of moisture, whether stagnant on the surface, or confined under it, proceeds, that hitherto incurable malady, the *rot*, and other diseases to which many thousands of valuable animals fall a sacrifice every year. In the sheep farm of the Cheviot hills, the object has, in a great measure, been obtained, by cutting surface drains about one foot wide, and as much deep, in an oblique direction of the declivity of the ground. Others have been rendered dry, by the following simple process: A deep furrow is turned up, by a strong plough, the

sod is cleared from earth, reduced to three inches in thickness, and thence placed in the furrow whence it was taken. The grassy side being placed uppermost, there is a hollow beneath, sufficient to discharge a considerable quantity of surface water, which readily sinks into it. The water collected from these drains is sometimes employed in running over such parts of the ground below, as are dry and covered with heath, where it has the effect of killing that plant, and encouraging luxuriant grass.

Bogs.—The successful mode of draining bogs, as practised by Elkington, and so ably described by Johnstone, cannot be minutely detailed in this place; it may be sufficient to state the general principles upon which it depends: these are, 1. Upon discovering the main spring or source of the evil; 2. Upon taking the levels, and ascertaining their subterraneous bearings; and, 3. On making use of the augur when necessary, if the depth of the drain is not sufficient for that purpose, to reach and tap the springs. As an example of this, it may be mentioned, that in a field near Tamworth in Staffordshire, by boring a hole thirty feet deep, through which water issued at the rate of *three hogsheads a minute*, a great extent of wet land in that neighbourhood was laid dry. Indeed in several cases, the Elkingtonian system has been attended with extraordinary consequences, not only in laying land dry, in the vicinity of the drain, but also by having a material effect on springs, wells, and wet ground, at a considerable distance, with which there was no apparent communication.

Lakes.—The objects in the draining of lakes are threefold. 1. For the sake of the land that may be gained, when the water is removed; 2. For the marl and rich earth that may be got at the bottom; and, 3. For the purpose of obtaining a level to drain the tracts of meadow, and marshy ground adjoining, which cannot otherwise be accomplished. In this way, the climate in the neighbourhood may likewise be improved. In many cases, such pieces of water have been either partially or entirely drained by deep cutting only, but sometimes the aid of machinery is required.

COMMUNICATIONS.

ON THE MURRAIN.

A DISEASE INCIDENT TO HORNED CATTLE.

TO THE EDITOR OF THE AMERICAN FARMER.

SIR—It would give me great pleasure, if I could answer, in any way, satisfactorily, your inquiries relative to the disease in horned cattle, called Murrain. To ascertain the true character and similitudes of the disease—is, no doubt, the only mode to understand and control it. The random exhibition of remedies seldom ever ultimately establishes any useful discovery; and what must be the mischief done throughout the multitude of trials, before that desideratum is obtained? There are diseases curable by specific remedies, in the brute, as well as in the human creation, we know; but they are few, and must necessarily be of a fixed and uniform nature, and limited range in the system, to admit of being

controlled by the specific influence of any one remedy, or the concurring jarring aids of many combined. The same remedy cannot suit every stage or state of a disease—hot, chilly, sweating, parching, or other natural changes—nor be applicable to its varying direction, from one organ, or part of the system, to the other—from the stomach to the brain, the bowels, the kidneys, the surface, the bones, &c. the same disease having different symptoms when seated in different organs, and requiring different remedies or variation of the same remedy, accordingly; all which is as perfectly ascertainable in the beast as in the man, if the same means were used to ascertain it. But “do men gather grapes of thorns, or figs of thistles?” An animal having four legs instead of two, in nowise alters the laws or properties of its machinery; or the influence of drugs in correcting their aberrations. Nor does that, or any other diversity of animal structure, make its diseases more conspicuous to common place observation, or convey to the anxious owner, an instructive knowledge of their cure.

The elementary principles of such knowledge, are as indispensable to its perfect attainment, as the acquisition of letters, to the learning to read, unless there should arise in the brute creation, as in the human, a teacher, who will learn you to speak a language before you know the rudiments of it. While I would regret to damp the rude efforts of unenlightened research on this subject, especially without providing a better, it cannot be wrong to direct the attention to what, unquestionably, is the only true ground in which science and success can be reared in this, as in all pursuits of human knowledge, viz. the acquisition of elementary principles, data on which to build; rules to guide and test our observations. The subject is not unworthy of it; daily do brute animals become of more importance in the affairs of human life, and therefore better entitled to human feelings and consideration, should the investigation and treatment of their diseases be held despicable, while the works of nature are found every where interesting; and human skill and knowledge always carrying their own reward. While it would be easy to bring this subject within the reach of every one disposed to give to it suitable attention, it is, in its present state, doubtless more in the power of the physician, than in any other class of persons, to mould it into something like substantial form and system, and give to the public sentiment a suitable impulse in regard to it, by developing the true characters, and pointing out the appropriate remedies of their diseases: nor, indeed, can either of them ever be ascertained through any other medium, to an extent at all progressive and commensurate with the improvements in other sciences, placed in hands competent to manage them—since that knowledge requires, as a preliminary, an acquaintance with animal economy, without which, any acquirements relative to the character and treatment of diseases, must necessarily prove very limited—confused in its application—and subject to great mischiefs. The anatomy, though mere machinery, needs more application, and the physiology of animal life, more depth of research, than the usual labourers in this vineyard are able or willing to bestow. On to medical men, then, this subject ought and must habitually devolve, before any creditable or use-

ful progress can be made in it; at least so far as to establish the general characters, and corresponding remedies of brute animal diseases on the universal and immutable basis of animal life and structure—and so classify, define, and theorize them, that they cannot be readily mistaken by attentive and experienced observers, though not scientifically versed in them. On this plan, popular treatises on human diseases—though generally mere jobs, never well executed—and more liable to great abuse, have yet proved very useful. There is no treatise on brute diseases deserving even that name; nor can there be, in the present state of that art of healing—because the necessary facts and histories are not collected; and no one, ever so conversant with the laws and structure of the animal machinery, and well disposed to the duty, can have such a range of observation, experience, and dissections in one view, as to systematise them. *Hunter*, and some other learned men, have touched this subject incidentally; and if such had been the general practice of the medical profession, we should not now have to lament our deplorable deficiency—and the mortification to see this science a century behind all others. I will offer, in my next, a few remarks on practical difficulties in the way of this subject, and the means to obviate them.

FOR THE AMERICAN FARMER.

DOMESTIC MANUFACTURES.

No 3.

It is a favourable opinion with many, that industry left to itself, will always pursue the most profitable employment, and that, therefore, every effort to encourage a particular branch of business, is impolitic and useless. As this hypothesis is an implied censure, not only on all measures of government intended to favour domestic manufactures, but also on those of various societies; and even, perhaps, on all essays, whose end is the same, a few comments upon it, in justification of our own conduct, may not be unacceptable to the reader.

Self-interest is generally supposed to be quick-sighted, and to be animated by a kind of instinct which is an infallible guide. But how does it happen, that, in following this mentor, individuals and nations run to ruin? The truth is, a proper distinction is not made between passion and reason. Self-love is a feeling, universal, strong, and constant; but it is seldom conjoined with wisdom, power, and activity. That lives in the breast of all; these ennoble the names of few. Every one *desires* his best interest; but every one does not at the same time *know* it, nor the means by which it is to be obtained: nor does every one knowing it possess the power and inclination requisite for the attainment of it. Most men need instruction, persuasion, and encouragement, to induce them to any important understanding.

The force of habit, it is well known, is very great; and, in some instances, almost invincible. So much are men governed by precedent, and so prone are they to continue in the employment to which they are accustomed, that some extraordinary influence is necessary to move them from their beaten track into any new line

of business, however profitable and practicable it may be. The sailor will tell you he cannot live on shore. He would go hungry and destitute of clothing, rather than work upon the sod. The merchant, who has for years past, derived from commerce a handsome profit, hopes to be equally successful for years to come, though the state of things renders it impossible. He lingers at his counting-house, until necessity compels him to abandon it; and he yields with reluctance to his fate. Timely advice and encouragement might have induced him to change his occupation, before his capital and his courage failed.

Thousands of poor, idle beings would work rather than beg, if men of ability would find them employment. Instead of suffering for the necessities of life, and being burdensome to society, they would earn a comfortable living and recompence their employers for their trouble. It is said, that even the convicts in our Penitentiary, support themselves; though the goods they manufacture are sold at much less than market price. If this be done by constraint upon lazy criminals, what might not be effected by persuasion and reward upon the innocent and industrious.

Granting it to be true, in general, that industry pursues its highest interest it does not follow that no artificial aid could be useful. Indeed the very opposite inference seems logical.

Capitalists, whose ability is requisite in any considerable undertaking, particularly in manufacturing establishments, are in general too prudent to engage in novel enterprises, without a prospect of immediate profit or at least of ultimate success. You must inspire them with confidence before you can enlist them in the cause. The superior skill and ability that foreign nations may have acquired in a particular branch of manufactures, during years of experience; the bounties and premiums paid by their governments to enable their manufacturers to undersell and supplant competitors; and the combinations of individuals engaged in any particular branch, to frustrate all attempts to introduce it in the countries that receive their goods, are obstacles that naturally create a dread, which must be removed by some artificial aid for a time until the causes of its excitement shall be overcome, or cease to exist. The strength and ability of manhood could never exist if the weakness and helplessness of infancy had not received proper care and support.

If it be certain, that manufactures once firmly established, would stand by their own strength, (of which their can be no doubt) let us lend our aid a few years to encourage them. Let it be remembered, that every man who wears a *domestic garment*, encourages *domestic manufactures*.

OPIFICI AMICUS.

We were furnished with the following receipt by a lady, a pattern of industry and all the domestic virtues, at whose table we have drank this wine in great perfection. It is desirable, that wine, and beer, and cider, should take the place, as far as possible, of ardent spirits, the extravagant use of which, has already become the scourge and the reproach of this young country. It is, therefore, to be wished, that every thing which can increase the means or throw light

upon the manner of making these simple and wholesome beverages, should be made known for public benefit; and we shall feel much obliged for all information on such matters. The receipt is copied from Cary's "American Museum," for July, 1788.

Receipt for making Currant-Wine.

Gather your currants when full ripe, which will commonly be about the middle of July; break them well in a tub or vat, (some have a mill constructed for the purpose, consisting of a hopper, fixed upon two lignum vitæ rollers) press and measure your juice, add two-thirds water, and to each gallon of that mixture, (i. e. juice, and water) put three pounds of muscovada sugar (the cleaner and drier the better; very coarse sugar, first clarified, will do equally well) stir it well, till the sugar is quite dissolved, and then turn it up. If you can possibly prevent it, let not your juice stand over night, as it should not ferment before mixture.

Observe that your casks be sweet and clean, and such as never had either beer or cider in them, and, and if new, let them be first well seasoned.

Do not fill your casks too full, otherwise they will work out at the bung, which is by no means good for the wine; rather make a proportionable quantity over and above, that, after drawing off the wine, you may have a sufficiency to fill up the casks.

Lay the bung lightly on the hole, to prevent the flies, &c. from creeping in. In three weeks or a month after making, the bung-hole may be stopped up, leaving only the vent-hole open till it has fully done working, which generally is about the latter end of October. It may then be racked off into other clean casks, if you please; but experience seems to favour the letting the wine stand on the lees till spring, as it thereby attains a stronger body, and is by that means in a great measure divested of that sweet, luscious taste, peculiar to new made wine. nay, if it is not wanted for present consumption, it may without any damage, stand two years on the lees.

When you draw off the wine, bore a hole, an inch, at least, above the tap hole, a little to the side of it, that it may run clear off the lees. The lees may either be distilled, which will yield a fine spirit, or filtered through a Hippocrate's sleeve, and returned again into the cask. Some put in the spirit, but I think it not advisable.

Do not suffer yourself to be prevailed on to add more than one third of juice, as above prescribed, in hopes that wine may be richer, for that would render it infallibly hard and unpleasant, nor yet a greater proportion of sugar, as it would certainly deprive it of its pure vinous taste.

By this management you may have wine, letting it have a proper age, equal to Madeira, at least superior to most wines commonly imported, and for much less money.

In regard to the quantity of wine intended to be made, take this example, remembering that twelve pounds of sugar are equal to a gallon of liquid.

For instance, suppose you intend to make thirty gallons only, then there must be,

8 gals. of juice,
16 of water,
—
24 gals. mixture,
6 gals. produced by sugar
—
30 gallons.

And so proportionably for any quantity you please to make.

The common cider presses, if thoroughly clean, will do well in making large quantities: the small hand-screw press is most convenient for such as make less.

N. B. An extraordinary good spirit for medicinal and other uses, may be distilled from currant juice, by adding a quart of molasses to a gallon of juice, to give it a proper fermentation.

Note.—On some of the borders of a garden, the size of a common country garden, currants enough are gathered, to make, annually, 25 or 30 gallons. An acre, well managed, would probably make at least 500 gallons.

Extract of a letter to the Editor, dated, BRANDYWINE, 3d 5th mo. 1819.

"A few words on agriculture: I am much gratified with Mr. Cobbett's remarks on transplantation, and feel impatient to hear him on earth-burning, or making ashes, that being a resource within the reach of every farmer, that has a soil suitable for grass.

"I have lately taken into one of my houses, an English farmer and his wife, with two children. As they came bare handed, I gave him a house, rent-free, and about half an acre of ground for a garden. The ground is in a soil of grass. He is now burning the sod, after having been ploughed, and cross-ploughed, and dried, and liberated, in part from the soil. Being a light loamy soil, of a good quality, there was no other way to get the grass effectually destroyed in time for planting. He is now planting what is cleared, and continues the operation of his fires on the residue. He has an abundant portion of ashes, or burnt earth and ashes, more he thinks than sufficient for some of his vegetables. I tell him to use it freely, especially on Indian corn and potatoes, as these are not easily over-manured.

"I mean to make an experiment by burning a small spot in my cornfield, having just now finished ploughing in the sod: The results shall be noted in due time. But, on observing what is done, I am prepared to believe it a fertilizing process; if so, and no bad consequences attend it, the subject is brought within the reach of every man, as the fuel is nothing more than a kindling sufficient to originate a heat, that is kept in by judiciously covering timely with sods, so as not to let it escape too freely."

Note by the Editor. So many things present themselves, with equal claims to preference, that we find difficulty in making the selection for our paper, and are often reminded of the first number of Dr. Johnson's "Rambler," the subject of which is the difficulty of knowing what subject to choose.

We want, for example, to present our readers with all the lights we have gathered on this business of earth-burning; it is an interesting one,

24 gls. mixture.
3 multiplied by
—
12) 72 lb. sugar,
—
equal to 6 gals. of
liquid.

and may prove highly useful, particularly as we think ~~it~~ in those districts where whole fields have been taken possession of by what is usually termed broom-sedge, the great mass of roots which this grass affords, when a little dried, will furnish a sufficiency of combustible matter for burning the sod thoroughly. It has been found difficult to bring such land under complete subjection; and, besides, an idea has prevailed, that, when turned in green, the broom sedge contains an acid, which, in the process of fermentation, acts injuriously on the land. By the burning process a thorough decomposition and alteration of its chemical properties is accomplished, and applied in the shape of ashes; a very different result may be expected. More of this hereafter.

Why is a Gardener the most extraordinary of men?

Addressed to the Countess of Coventry.

Because no man has more business upon earth, and he always chooses good grounds for what he does. He commands his thyme, he is master of the mint, and fingers penny royal; he raises his celery every year, and it is a bad year indeed that does not bring him a plum. He meets with more boughs than a minister of state; he makes more beds than the French king, and has in them more painted ladies and genuine roses and lilies than are to be found at a country wake; he makes raking his business more than his diversion, as many other gentlemen do, but makes it an advantage to health and fortune, which few others do; he can boast of more rapes than any rake in the kingdom. His wife, notwithstanding, has enough of *lady's love* and *heart's ease*, and never wishes for weeds. Distempers fatal to others, never hurt him: he walks the better for the gravel, and thrives most in a consumption. He can boast of more bleeding hearts than your ladyship, and more laurels than the Duke of Marlborough; but his greatest pride and the world's greatest envy is, that he can have *yea* when he pleases.

Agricultural Society of Maryland.

We have the satisfaction to announce, that an increasing disposition to give attention to agriculture, as a science, and to advance the practice of it, by the shortest means, to the highest result, is pervading all parts of the state. We see a proof of this in almost all of the numerous letters, we receive, and in the very great and flattering encouragement given to our humble labours, in the cause of the plough. An agricultural society, we understand, is about to be formed in Frederick County, and, we trust, the example will be followed by many others. Whether these societies will be independent and unconnected, or whether they will be branches of the state society, formed at Baltimore, we do not know. For one formed on the latter principle, the following form of a constitution, has been recommended by the Agricultural Society at Easton:—

Whereas, a number of respectable Agriculturists of this state, at a meeting held by them, in the city of Baltimore, and on the 2d day of June, in the year eighteen hundred and eighteen, established a general superintending Society for the advancement of Agriculture, under the style

and title of the "Maryland Agricultural Society;" and the members thereof have declared their conviction, that, for the purpose of obtaining and combining the knowledge and experience of industrious and enterprising farmers, and of extending the advantages of rural economy to every district in the state, the citizens of each respective county, ought to be invited to form an Agricultural Society therein, as an auxiliary and important measure in promoting the useful objects they have in view: And whereas, for the sake of connecting the efforts and proceedings of associations in the counties, with those of the General Society, and of affording to all, the benefits which each may derive from the other, a uniformity of plan in the construction of their government, and modes of correspondence of the County Societies, has been respectfully recommended.

We, therefore, the subscribers, approving of the views of the General Society, and of the constitution which its members have formed for the government thereof; and being desirous of uniting with them and of assisting them in promoting the great interests of Husbandry, do hereby agree to associate ourselves under the style and title of "*The Agricultural Society of _____ County*," and to govern ourselves according to the following articles:—

1. The object of this association, like that of the General Society, is the promotion of Agricultural and Rural Economy.

2. The Society shall consist of every individual friendly to this object, who shall desire to subscribe these articles: and so soon as twenty individuals shall have subscribed them, the Society shall be considered formed, and the members may proceed to organize themselves.

3. The Society shall meet in stated quarterly Sessions; and at their first meeting and annually thereafter, the members present, shall elect by a majority of votes, a President, a Treasurer, and a Secretary, and also a committee of nine members.

4. This committee, associated with the President and Secretary, shall have the general management of the affairs of the Society, and hold a correspondence with the Board of Agriculture of the Eastern [or Western] shore, upon every subject belonging to the interests of this association, which they may wish to communicate, or upon which they may desire information.

5. At the general meetings of the Society, the President shall receive the communications of any member, and the same shall be referred to the committee, or otherwise disposed of as the majority shall require: And he shall report, read and explain to the Society at large, such letters, papers and experiments, as may have been transmitted to the committee, or as may be considered deserving of their attention.

6. Every member subscribing these articles, shall contribute one dollar annually to a fund for premiums, stationary, and other expenses to be paid to the treasurer, in quarterly or annual periods at his election.

7. One fourth of his contribution shall be retained by the treasurer, for the stationary and other expenses of the society; and the residue shall be annually, or oftener, remitted by him to the treasurer of the Maryland Agricultural Society, to be employed under their direction in

the payment of premiums and other proper objects of their expenditures. And, to enable the state Society to form a true estimate of their resources, the Secretary of this Society shall annually transmit to their Secretary, a list of all its members. Provided nevertheless, that in addition to the general premiums which may be offered to the community at large for improvements in Agriculture, one third part of the residue shall be set apart by the General Society for the encouragement of enterprising Farmers in this county, and applied in premiums to reward their discoveries or successful experiments.

8. At their stated meeting in the Spring of every year, the Society shall appoint a deputation of three skilful and intelligent Agriculturists to attend the Maryland Agricultural Society, as members thereof, at their respective meetings.

9. The Society shall have power to make such rules and by-laws for their government, and for the management of their affairs as they shall think proper; and to add to, alter or amend the present Constitution: Provided however, that no proposition to change or affect the 6th, 7th, and 8th articles thereof shall be adopted, without the concurrence of the County Societies, as well as that of the State Society.

FROM THE NATIONAL ADVOCATE.

DOMESTIC ECONOMY.

I am satisfied of one fact, and from close personal observation, and that is, a very considerable and unnecessary sum of money is annually expended in this city, from the too prevailing custom of sending servants to market, instead of the master going himself. Old men will be curious and prying into other people's affairs; I know it, and must abide the censure; but, as I said before, I am well off in the world, and have nothing else to do than to look out for the best means of promoting the happiness of my fellow creatures; so I brushed up my old cocked hat, seized my cane, and one bright morning in spring, I took my stand near the Fly-market, to make observations on what passed in that bustling and all-important place. Upon a moderate calculation, I decided, that out of four persons who came to market, two were servants; and I had an opportunity of observing their separate expenditures. A black gentleman, with his wool nicely combed, a super-fine blue coat, with watch seals, and a large basket on his arm, brushed up to the butcher. "I want four fine ribs and three of the best steaks." "You must give me my price, then," says the butcher. "I never dispute that," said the black gentleman, "come weigh them—here's the money." "Four cutlets," said he to the veal butcher, "how much?" "Twelve shillings." "There's the shiners." "Put those fowls into my basket, Mr." said the sable provider, "and take out the price from this five dollar note." "Let me have four pounds of that salmon—how much is it?" "Six shillings a pound." "No dear—there's your money." "Let me see, what else: Three dozen eggs, sallads, cranberries—Zounds! I shall have nothing left out of my ten dollars."

In this manner did an improvident master entrust a careless servant to cater for him, who,

without system or economy, expended ten dollars, when five would have been more than sufficient. Suppose that this sum is thus daily wasted, it consumes somewhere near 3000 dollars per annum, for marketing alone. Is it surprising that people become insolvent? A master of a family, instead of rolling about in bed until eight o'clock, or probably later, yawning, or harmonizing with his drowsy wife, in a good comfortable snore, "making the welkin ring," should be stirring with the lark; should rouse the servants; set industry into motion; be off to market himself, with his basket; should cheapen every thing he may require, and purchase no more than what is strictly necessary, and then return from his economical duty, and find his wife ready to receive him at breakfast, with cheerful looks, his table spread with frugality, cleanliness, and comfort. Then, the business of the day having had a happy and judicious commencement, will progress lightly and prosperously. What pride can be more false, more dangerous, more censurable, than that of feeling ashamed to purchase in person, and not by deputy, the articles indispensable for domestic consumption. Set your house to rights, is an early and a just proverb; and if husbands do not set a proper example of economy to wives, they are not authorized in railing at their wives' extravagance. I do not admire invidious comparisons; nor am I pleased when I see one city eulogised at the expense of another; but I do admire the Philadelphia custom, of ladies going to market;* and I see no reason why ladies should not go to market, as well as to go to what is called "a shopping;" I can perceive no difference in a lady's purchasing a nice pound of butter, a basket of fruit, or a pair of pheasants, than in purchasing a pair of shoes, a pair of gloves, floss cotton or a chip hat; in principle and in practice, it is the same; both, of necessity, are indispensable. But as I was saying, I do admire the Philadelphia ladies, who market twice a week, make all domestic purchases, and are familiar with all the arcana of higgling and purchasing on the best terms. Who are they serving? Why, their families. "Many a time and oft" have I admired those bewitching faces; with pure red and white, peeping from under a drab bonnet, pacing with modest steps up and down a clean market, with a nice looking little girl behind with a basket and a tin kettle, in which the butter was covered with fresh vine leaves and congealed with ice, a small steak, a few mutton chops, a salad or a fowl—the aggregate of which is not considerable, constitute their maximum of supplies, and thus is economy promoted and comfort produced. It is very injudicious to trust servants with what is the duty

* Much as we admire the essays of Howard, we must dissent from him in this. Ladies should only go to market in cases of lamentable necessity, where the widowed mother is compelled to submit to many things revolting to female delicacy. Let the mistress rise early, wash and dress her children, teach them the use and value of their book, their needle and their music, and have her house "put in order" while her husband goes to market. He may have strength and courage to push his way through crowds of rude servants, wagoners and fish women.

of masters to perform. A servant may feel some interest for his master; but not knowing the resources of the master, he cannot study that interest with proper nicety; though it most frequently happens, that by trusting expenditures to their care, the "superfluous" too generally finds its way into their pockets.

HOWARD.

From the Practical American Gardener.

For the month of May.

Supporting Plants for Seeds.

Now support the stems or stalks of such plants, as were planted for seed. The onions, leeks, beets, carrots, celery, cabbages, cauliflowers, and many others, whose stalks run up to a great height, and if they are not properly secured in due time, the winds and heavy rains will break them down. This may be done by driving stakes into the ground, and fastening poles all round, or in any mode judged most suitable.

Okra.

The first week in this month will answer to sow a full crop of Okra, as the seeds will now vegetate freely, and grow rapidly.

Cardoons.

The cardoons, sown in March and April, ought now to be thinned to about four or five inches distance, in order that the plants which remain, may have room to grow, and gather sufficient strength, by next month, when they should be planted where they are to remain, for landing up, to blanch.

Ricinus, Palma Christi, or Castor Bean.

This plant may be raised to great perfection in the southern states, and to some advantage also, in the middle states. The soil should be richly manured, well pulverized with the hoe, or plough and harrow. The ground should be sufficiently warmed by the sun, before they are planted. The time of planting Indian corn, will answer for a general rule for these seeds, that is, from the first to the fifteenth of this month, in the middle states; but the warm season is scarcely long enough to bring them to perfection, so as to allow of them as a field crop. The furrows should be about six feet apart, each way, and two or three seeds planted at the intersections; two shovels of rotten manure should be thrown into the bottom, and afterwards covered about three inches with earth; before dropping the seed thereon, cover them about an inch or two with pulverized good mould, keep them clean of weeds, with the plough, draw the earth three or four inches high about their stems, carefully take all the suckers from them, and in the southern states, they will produce abundantly. They may be gathered as they ripen, and when the outer coat is dry, the bean may be taken out, and kept for making oil.

Destroying Weeds.

The gardener cannot be too strongly reminded of the necessity of destroying weeds whilst young. The utmost attention must now be given to destroy them, throughout the whole garden, but more especially among the young rising crops. It is now the most important work for him to be

engaged in. The hoe should be used between all the rows and drills, and the weeds which are close to the plants, pulled up by the hand.

The onions, carrots, leeks, and all other close and low growing crops, should be always kept free from weeds, from the moment they appear above ground, till grown to their full size. For those sown in drills, a small hoe or a suitable rake, with several short teeth, will answer well, but where these cannot be applied, hand-weeding must be practised.

Watering.

Watering in dry weather, is very necessary, not only to the larger growth of plants finally transplanted, such as cabbages, cauliflowers, lettuce, celery, &c. but more particularly to the newly transplanted crops, whether young seedlings, or such as have been pricked out into new beds. A plentiful watering should be given to each plant, immediately after planting out, and repeated occasionally, until all have taken root, and begin to grow.

Water should generally be given late in the afternoon, that the plants may have as much benefit from it as possible, before it is exhaled by the heat of the succeeding day; but when it cannot be done in the evening, it may be given, though more sparingly, in the morning.

Wall and Espalier Trees.

In the early part of this month, examine these trees, and where a superabundance of unnecessary shoots appear, rub them off carefully, but do not destroy any fruit buds.

Protect Cherries from Birds.

This may be done as soon as the cherries begin to ripen, by hanging nets over the espaliers.

Thinning of Fruit.

Apricots, peaches and nectarines, in favourable seasons, sometimes set abundance of fruit, more than the trees can properly nourish; therefore thin them carefully, leaving only a moderate supply.

Cleaning the Fruit Tree Borders, &c.

These borders should be kept perfectly free from weeds, by hoeing, &c. and all insects must be destroyed as much as possible. A small water engine, to throw water against such trees as are infested with insects, would have a good effect, and also refresh the trees in dry weather.

Strawberry plants will now be coming into full bearing, and if watered between the rows occasionally, the fruit will be larger and more abundant.

General Observations.

Weeds should be destroyed at this season, in all parts of the nursery, and the hoe must be applied whenever you can use it.

Be careful to keep the seed-beds of all young trees and shrubs, perfectly clear from weeds, which must always be done by a hoe or spade, and hand weeding the rows.

Watering the seed-beds.—Should the weather now prove dry, all the seed-beds and also the evergreens, such as pines and firs, &c. ought to be frequently watered, and care taken that it is not done too hastily, lest it should wash the earth from the young roots, and expose them too much to the sun.

New plantations of the more curious and valuable sorts of evergreens and flowering shrubs,

should be watered; if occasionally given to the leaves and branches, as well as to the roots, it will wash off any dirt which they may have contracted.

Such plants as you have in pots, should be treated as directed for those of the green-house department.

Propagating Evergreens, &c. by Layers.

Begin to propagate about the latter end of this month, evergreens and other shrubs, by layers; take the young shoots of the present year, as they do not always succeed well from those of the old wood.

When the young shoots are from eight to ten or twelve inches long, lay them into the earth, from two to six inches deep, according to their size; fasten them well with hooked pegs, and draw the earth over the parts laid; when done, water them moderately, and repeat it occasionally; this will keep the earth moist, and encourage their shooting. Many kinds will be rooted by October, and may then be taken off and removed.

Shading and sifting Earth over the Seedlings.

All the slow growing and tender seedlings, especially the evergreens, should, after having newly come up, be shaded occasionally from the mid-day sun; then sift some fine light earth over them, as much as will cover their stems up to the seed leaves.

Seedlings in Pots or Tubs.

The pots and the tubs of the more rare and delicate seedling plants, should now be kept constantly in the shade, and a little earth sifted over them, as directed for other seedlings, will be of service.

BALTIMORE:

FRIDAY, MAY 14, 1819.

ONCE FOR ALL!

The Editor of the AMERICAN FARMER has good reason to believe, that an impression prevails to a certain extent, that this paper will hereafter assume a political complexion. Once for all, then, he declares, most explicitly, that not a word of party politics will ever be allowed to enter its columns. The *professed* objects of the paper, *Agriculture and Domestic Economy*, are its *real* objects: these are of no sect or party. Even had the Editor the vanity to suppose, (which he utterly disclaims) that any thing which he could say, would have any effect,—where is the necessity? Are there not already papers enough, whose vocation it is, to "fan the embers" of party.

NEW INVENTIONS.

The creative genius of our enterprising countrymen, is ever on the wing to discover new means of enhancing the conveniences and comforts of public and private establishments. Amongst other recent improvements, there is one lately made by *Coleman Sellers*, of Philadelphia, in the construction of *mail-bags, wagon-gears, &c.* Instead of being sewed with shoemaker's thread, as formerly, there is not one stitch of thread about them. They are fasten-

ed altogether with *rivets*; the seams are water tight, they can never rip, and there would seem to be scarcely any end to their durability. The rivets are small, so as not to increase, materially, the weight of the gears; and the heads of the rivets being made perfectly smooth, no inconvenience is experienced from them.

SADDLES.

A very pleasant improvement has been made in the construction of the saddle seat, some years since, by *John Bryan*, of Kentucky, which we apprehend is not so generally known and appreciated as it deserves. It consists in a steel spring, one end of which fastens to the bar of the tree, and thence passes round and upon the tree to the cantle, or hind part of the saddle, where the ends of the two springs nearly meet. The length webs which in the common saddles are nailed fast at both ends of the saddle, are in these fastened to the ends of the springs; so that we should suppose the rider would derive, comparatively speaking, quite as much relief from the elasticity of this seat, as the traveller does from the springs of a common carriage, over one that has none. The one we saw, was at the shop of a very deserving young tradesman, *Thomas Mackenzie*, who has the patent right. The following certificate from the late Sheriff of Calvert county, testifies the superiority of saddles made on this principle*:

MAY 1st, 1819.

I hereby certify, that I have had in constant use, for three years, a *patent elastic Saddle*, made by *Thomas Mackenzie*, of Baltimore, which I pronounce, to be far superior for ease and durability, to any other saddle I ever before had.

JNO. CLARE.

* Others who have tried them, offer to testify to their superiority.

Present Prices of Maryland Produce,

IN THE BALTIMORE MARKET.

TOBACCO.—Of this article, we will state particular sales, and their attendant circumstances, leaving the reader to make his comments.

One hogshhead of very superior Richmond, has sold within the week, for \$14; twenty hogsheads of common Richmond tobacco, has also been sold at an average price of \$9. Of Prince George's tobacco, ten hogshheads, made by *B. Ogile*, E-q. of the very best quality, fired tobacco, said to be equal to any ever brought from that county, sold for \$14 to 16

Elkridge, good quality, 12 to 14
A few, very fine, from the neighbourhood of Poplar Springs, for 17

On the whole, Upper Patuxent tobacco, of good quality, may be quoted at 12 to 14

Inferior quality, 10 to 12

WHEAT, red, \$1 35 to 1 40

RYE, 87 to 90 cts.

CORN, 53 to 55

OATS, 50

HAY, per ton, \$18 to 20

BEEF, butcher's best, 12 1-2 cents; Veal, per

quarter, from the wagons, \$1 to 1 25—do. butcher's per lb. 12 1-2; Mutton 8 to 10; Fowls,

\$1 to 1 25; Eggs, 16; Butter, 37 1-2 to 50.

THE ORDINATION.

The following was the order of performance, at the ordination of Mr. JARED SPARKS, to the pastoral care of the *First Independent Church of Baltimore*, which took place May 5th, 1819.

1. Prelude on the organ; 2. Introductory prayer, by the Rev. Mr. Edes; 3. Lesson from the Scripture, by the Rev. Mr. Parker; 4. Anthem; 5. Sermon by the Rev. Mr. Channing; 6. Ordaining prayer, by the Rev. Dr. Ware; 7. Anthem; 8. Charge, by the Rev. Dr. Porter; 9. Address to the Society, by the Rev. Dr. Thayer; 10. Right hand of fellowship, by the Rev. Mr. Palfrey; 11. Concluding prayer, by the Rev. Mr. Nichols; 12. Hymn; 13. Anthem; 14. Benediction; 15. Voluntary on the organ.

It is stated in the London papers, that an infusion of *authoxantum odoratum*, or early vernal sweet-scented meadow-grass, from old meadows well fed and mowed, and well got up, has been proved to be more agreeable and nutritious than any that is to be made from any tea that can be produced from China. This tea is odoriferous and saccharine; it is said to be nutritious, exhilarating, and, instead of relaxing, to give a tone to the fibres of the stomach; to create appetite, and promote digestion. The gentleman who is said to have made the discovery, has been called by his female friends, "Emperor of Haytea." A species of grass, found in North Carolina, has long been used as a substitute for China tea, producing an excellent and wholesome beverage, to which the inhabitants are very partial.

To arrest Horses in the act of running off.—A German writer suggests a simple method of stopping horses from running away. The plan is, to have blinds so attached to the head stall of the bridle, that by drawing a check rein, fixed for that purpose, the blinds will immediately close over the eyes, and by confounding the horse, compel him through fear, to stop immediately. If the plan be found to answer, it ought to be adopted, particularly in the case of all public stages. The line from the blind might be fastened to the front of the stage, so that any passenger might pull it, in case of accident to, or absence of the driver.

It is confidently affirmed, that the most ungovernable horse or mule may be subdued and made quite tractable, by stopping his ears with wool or cotton so as to prevent his hearing.

Earthquakes.—A letter from Palermo, of the 4th inst. received on Saturday, contains the following particulars:—"We have had most dreadful weather here these last fourteen days, with three heavy shocks of an earthquake, which has done much mischief on the south-east part of the island, throwing down churches and destroying whole villages. Much damage has also taken place among the shipping; but I am happy to say, that nothing of consequence has happened here." Letters from Messina of the 3d, from Naples of the 9th, were also received; but though they remove all doubts of the safety of Messina, they contain no particulars of the devastation mentioned in the Palermo letter.

THRESHING MACHINE.

Numerous schemes have been proposed as labour saving substitutes for the common tedious method of separating grain from the straw by the use of the flail, or the less cleanly, and more laborious process, of treading it out.

These machines have, generally, been found, on trial, very complicated, expensive, and difficult to be kept in order, but we have just seen one, patented by an ingenious mechanic of this city. Mr. Thomas Mayfield, which seems to unite simplicity of construction with sufficient power, and little expense; he calculates it will clean fifty bushels per day, with two hands and a boy to attend it. The wheat is to be struck by twelve double-jointed flails. In the space of twenty six inches; and by the feeding roller the wheat passes under these flails, at the rate of ninety inches in a minute. The machine works a fan, and cleans the wheat by the same operation. We trust he will find no difficulty in obtaining that encouragement and assistance, for the want of which many deserving mechanics, as well as the public, lose the benefit of their ingenious and useful inventions.

BRICK MAKING.

As the most beautiful theories, when reduced to practice, often develop some unforeseen defect; so miniature machines, however symmetrical in their proportions, and apparently well adapted to secure the advantages proposed, frequently disclose some undiscovered and incurable incongruity of arrangement in their parts, or some defect in their principle, which renders them useless when we attempt to put them in practical operation.

We will not say, that this will be the case with *Stewart's* machine for making bricks—on the contrary, it appears to us to be perfectly feasible—its operation is easy and beautiful. We have hopes of having a cut to illustrate its construction. The inventor supposes it will save the labour of 200 hands. In the volume of "Archives of New Inventions, for the year 1817," a French work, amongst other things, there is a memorandum of a sample of porcelain, and a machine for manufacturing bricks, by *M. Legros D'Anizy*, which is said to be capable of making 8000 tiles or bricks in one day, but the principles of the machine are not described; neither is its capacity by any means equal to what Mr. Stewart says can be done with his.

Anagram.—It is a curious coincidence, that the words "Prince Regent" should form the anagram, *G. R. en pretence*.

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,

BALTIMORE,

AT FOUR DOLLARS PER ANNUM,

PAYABLE IN ADVANCE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolus." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, MAY 21, 1819.

NUM 8.

AGRICULTURE.

From the Memoirs of the Philadelphia Agricultural Society.

Notices for a Young Farmer,
Particularly one on Worn Lands; being some rudiments for an Epitome of Good Husbandry; and subjects promotive of its prosperity.

WITH NOTES BY THE EDITOR OF THE FARMER.

Farm Yard to be laid out on a good Plan. Water introduced and Stock confined.

I. You cannot be too careful in forming the plan of your farm-yard; (the magazine and laboratory of your principal stores for artificial fertility,) calculated ultimately for your improved farm. But begin with such parts of your farm buildings and accommodations as suit its present state of culture; and add such conveniences, as circumstances from time to time require.

If no water be in your yard, dig a well, promptly, and confine your stock from November to May; never permitting them to wander after water, the provender of the stalk-field, or the miserable fogge of other fields; in which they empty themselves, gain little nourishment, and uselessly scatter their dung, the fertilizing qualities whereof are thus given to the winds, and only a dry and inert remnant left, for future benefit. The stalks and husks of Indian corn, should be brought home for feed and manure; instead of being wastefully browsed, and trodden down by wandering cattle. Let not a hoof, unnecessarily, leave your yard, or stables; not however, neglecting to give them proper exercise, within the enclosure, or if out of it, let them so remain only during the time employed in such exercise; or in the services required from them.

Yard to be stored with all attainable putrescible substances; to be mixed with the dung and urine in a pen or stercorary. Valuable qualities of urine. Night soil.

II. Haul into your yard, a sufficiency of every putrescible substance, within reasonable distance; and often clean up your muck. Have a pen, or stercorary, of solid masonry, with its bottom paved, or composed of sound and well compacted clay. Your manure gathered into your pen, or stercorary, should be secured against the treading of cattle, which, by excluding air, prevents the necessary fermentation; a reasonable degree whereof is essential, although when excessive it

should be checked. Sir H. Davy's discussion on this subject, shows one side of the question and experience must teach the other. Mix earth with your fermenting litter, or muck, rather than lime, until the fermentation be sufficiently advanced. If your stercorary be roofed or thatched, it will be the more perfect. (a) Have pits, secured from leakages, to collect the drainings of dung, and the urine of horses and cattle—the most valuable excrements. Human urine is also surprisingly beneficial; and, generally, (as it regards rural economy) wasted. Prejudice and ridicule are alive, when it is asserted, that it is preferred by horses and cattle to salt; and is to them, salutary as a medicine, as well as a condiment promotive of health, and consequent profit.* Our Germans have been long acquainted with its uses; and, a late publication in England, shows its powers and efficacy, as well for domestic animals, as for fertilizing the soil, when diluted, and judiciously applied. Immense collections of it might be made, not only in cities, towns, inns, and manufactories, but on every farm. Human ordure, or night soil, however contemptuously regarded by us, has been long used in eastern countries, as the most valuable manure. In some parts of Europe, it has for some time past, become an object of attention. Its offensive qualities are readily corrected by lime.

Fall ploughing; its advantages. Corn-grub, or Cutworm. Soddy grounds; how to treat them. The Roller, and its uses. Farm well, on a small scale, rather than extensively and negligently. Hessian Fly. Mix earths, and plough in green manures. Composts.

III. Plough and harrow soddy fields in the fall and add lime, harrowed in at that season, if it be within your power. In addition to other advantages of this operation, you will thereby

* Many years ago, a German woman kept cows in a town in Maryland; and derived a plentiful support from the sale of milk, cream, and butter. Her cows were remarkable for their goodly appearance, and every body preferred dealing with her, to being supplied by other cow-keepers. Envy was excited; and she was narrowly watched. At length it was discovered, by her rivals, that she daily emptied the contents of the urinal into the food of her cows. She acknowledged this to have been the magical cause of the superiority of her butter and cream. But when the secret was discovered, she could sell no more of the celebrated articles, which had theretofore been so universally admired. It is only by stealth, that such prejudices can be prevented, or subdued, by a conquest over the imagination.

escape, either wholly, or for the most part, the annoyances of the corn grubs. In what mode destruction of the grubs, or the eggs of their parent, (be it a beetle or what it may; for on this subject, there are varieties of opinion) is, by these operations, accomplished, or their ravages prevented, is a subject of laudable curiosity and speculation: but the fact of the purpose being achieved, is all-important; and in numerous instances, incontestibly proved. That spring ploughing is generally inefficacious, is too frequently and fatally known. Instances of failure to produce the effect mentioned, by fall ploughing, have been adduced. On examination into the facts of some it is found, that the operation has not been performed either well, or in due time, and only partially; and in other cases, either uncommon grub years, or other peculiar circumstances, have occurred. The great balance of facts is, most assuredly, favourable to this practice, and warrants its adoption. It is so beneficial in other respects, that it should be followed, even without regard to its effects on the grub. Some acute diseases defy common remedies; and dams and mounds resist common floods, yet yield to extraordinary inundations. Nevertheless, medicine and medical skill, and preventives of overflows should not be set at naught; nor should any beneficial operation in husbandry be disregarded, because it does not in every instance succeed.

Fall ploughing enables you to plant corn early: and it is better thus to risk spring frosts; which do less injury to your plants, than do early frosts, in autumn, to the corn fully grown.

It is alleged by several highly respectable farmers, that, in holes made near the hills, with a pointed stick, inconceivable numbers of grubs have perished. (b) In a letter to the Society, on the information of one who actually experienced the fact, it appears, that, by a ditch dug for the purpose, across a field, the passage of Cutworms from a field, which had been destroyed, to one injured, was obstructed: and six bushels of grubs were thus collected. (c) This would seem indubitably to prove them to be migratory; and to show the consequences of leaving part of a field unploughed in the autumn; which affords harbour for grubs, which may from thence wander over the fall ploughed portion. Several farmers have escaped the grub, by steeping the seed corn in spirits of turpentine, and rolling it in plaster.

Soddy grounds should be rolled, and well harrowed, in the direction of the furrows, after being broken up so deeply, as to place beyond vegetation, the sod; and by thus excluding air, and by clean, shallow, and frequent stirring, so

as not to disturb it, to promote its decay without a capacity to grow. The dead fibres, (nature's rotatives,) are thus retained in the soil, for appropriate manures—Lime, Plaster, Marle, &c. to co-operate with. The sod left on edge, either dries uselessly, or vegetates with all its pests.

The *Roller* is too little used; and mistakenly, supposed to consolidate too much: whereas it crushes and separates clods, and loosens the soil. On clay and heavy ground, the *Spiky Roller* is best, as it is on all hide-bound surfaces—of meadows and mowing grounds particularly; but, like all operations, rolling must be performed judiciously, and adapted to soils and circumstances. Few, indeed, are the soils on which it is not highly beneficial.

Sow no more ground, with winter grain especially, than you can perfectly till and manure; one well dressed acre, being worth many negligently treated. Manure, good tillage, and late sowing, which latter is only justified by the two former, are guards against the *Hessian Fly*. If even to good farming, misfortune occurs, losses are not accompanied by self reproach. Shed Oats, or that grain sown with the wheat, sometimes attracts the Fly, by its being more forward and tempting; for this insect has no predilection for wheat, although our interest to this grain, induces our peculiar attention to its misfortunes; but like Radishes sown with Turnips, success does not always attend the experiment, though well worthy of trial.

If you cannot get lime, or animal manure, mix earths of different qualities and textures, or plough in green manures, such as buckwheat, clover, &c. Turn them in deep, to prevent evaporation in gasses, which would occur in summer fallows, superficially ploughed.

For composts, move old fences, and plough up their scites; thus destroying hedge-rows, and other nuisances; and mix tussocks, weeds, (cut before going to seed,) and all putrescible substances in long and low beds, to be turned by the plough. Go into your woods, and compost leaves and wood soil; also use mould from low places, washed thither by rains and floods, and throw out the beds of stagnant ponds, *Lime* with the latter, is beneficial, and plaster operates wonderfully with the former, on the decayed vegetable matter, as do ashes on pond or river mud. *Plaster*, in compost in which vegetable matter is mixed, is more beneficial than *lime*. Whether salt be or not a manure, is not well ascertained; but it has had success in small quantities. The *Chinese* make much use of sea water as manure, on lands near their coasts; and those in the interior, scatter salt over their fields, before they are tilled. The same practice is pursued in *Hindoostan*.

(To be continued.)

NOTES.

(a) The following cut presents the form of a STEROCORARY, or, to speak more plainly, *manure pen*; for, of all things, we most dislike hard words, particularly in writings like these. We are indebted for this cut, to the politeness of the Editor of the "GLOBE," a valuable periodical publication, in New York. A plan of one of these manure pens, is to be found in the first volume

of the Memoirs of the Philadelphia Agricultural Society, represented more minutely than this one; with valuable remarks, by that zealous and enlightened friend of the plough, Judge PETERS; and much to be learned from the writings of Josiah Quincy, Esq. on the construction and uses of the Stereocary.

These contrivances, however, we think, are rather to be regarded as refinements, requiring much labour, and involving much expense; therefore, better suited to the condition of wealthy men, who have already progressed extensively in agricultural improvements.

For the present, we should be glad to see Maryland farmers improve, were it only so far as to have well constructed *farm pens* even with thatched covers, so as to confine and water their cattle in well littered pens, through the whole winter. If they will only do that much, the increase of manure, fertility, produce, and gain will soon enable them to do more.

PROPER SITUATION FOR A DUNGHILL.

"The situation best calculated for the site of a dunghill, is that which is nearest to a level, with a bottom capable of retaining moisture, and if possible, covered with a shade. The whole should be enclosed with a wall of at least four or five feet in height, with an open space at one end for carting away the dung. If the bottom is not clay, it should be laid with it, and paved above, either with broad flags, or the common paving stones, used for streets.* At the end opposite to where the opening is left, a reservoir should be dug, which might either be lined with clay, and built round with stone, or fitted with a wooden cistern, made water-tight, into which a pump should be put for drawing off the moisture daily.

This reservoir should be situated at the most depending part of the dunghill, with an opening in the wall immediately opposite to it. The pavement should have a number of channels, of at least five or six inches deep, and the same width, all tending towards the opening; these channels should be well paved, and filled with brushwood before the dung is laid down; by which means they will be kept open, and the moisture find a ready passage to the reservoir. For better explaining the idea, we refer the reader to the annexed plan of a dunghill, with the proposed channel and reservoir.

Every dunghill should be so situated as to have its longest sides run from east to west, surrounded by a wall; and covered with a roof.—The wall on the south side of the dunghill should be of such a height, as to prevent entirely the sun's rays from touching the dung, on the other three sides, however, there is no necessity for its being so high; six feet from the ground will be quite sufficient; and the roof can be supported by pillars, as in the figure.

The expense of a roof, which need only be thatched, will soon be compensated, not only by the superior quality of the dung, but by the conveniences which it will afford; as it may easily be converted either into a pigeon-house, a poultry-house, or a store for the smaller husbandry utensils.

*The American Farmer may find it convenient to lay a floor of thick plank.

Fig. 1.

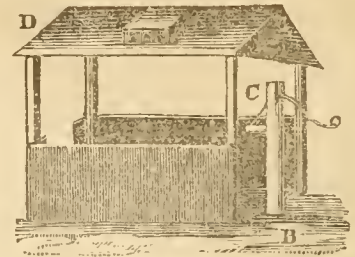


Fig. 2.

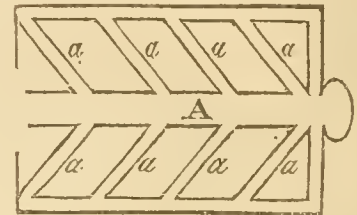


Fig. 1. Represents an elevation of the building for the reception of dung; B. the reservoir; C. the pump; D. the roof.

Fig. 2. Represents the ground plan; A. the main channel leading to the reservoir; a, a, a, a, the side channels, terminating in the main one, A.

Advantages attending Dunghills constructed in this way.

The advantages attending this sort of dunghill, will appear at first sight. The wall, by confining the dung, will keep it from being scattered about and lost, and will also preserve the sides of the dunghill from being dried and rendered useless, by the action of the air. The shade will keep it from being chilled or deprived of its salts, by the rain passing through it; the wall will also prevent the moisture from escaping at the sides, and conduct it to the bottom. The pavement will prevent it from sinking into the earth; and the channel will conduct it to the reservoir; from whence it can be drawn by a pump into a barrel placed into a cart, and either spread immediately upon the field, or mixed with other substances into a compost, or thrown upon the dunghill itself, it being the best of all fermenters!

To increase the Quantity of Manure.

The quantity of manure may be increased by laying a layer of earth, leaves of trees, or any other suitable substance, on the bottom; and similar layers may be laid throughout the dunghill, the moisture passing through them, the same being returned from the reservoir, will completely saturate them; the entire will undergo a fermentation, and produce a vast quantity of manure; a quantity which can be so increased, that the farm may be kept in a state of constant and profitable productiveness. The buildings should be, if possible, so placed, that the urine from the stable, cow-house, &c. would pass by a channel into the reservoir.

(b) This reminds us of the poor French prisoner released in England, and being destitute of

the means of getting home, pulverised some rotten wood and putting it up nicely in very small papers, sold it at the fare, for "*Flea Powder*" of magical efficacy. At the close of his successful speculation, some purchaser bethought him to inquire how the "*pooder*" was to be *applied*—"Dat," said the Frenchman, "dat be une autre chose: nie suppose you squeeze him on the back of he neck, and wen he open his moute you vill put a de pooder down he trote."—So with the grubs: if we could make small pit falls enough to catch them all, they might, doubtless, be destroyed; but quere, ought not the holes to be baited with something of higher relish to the worm, than the corn?

(c) The Editor recollects, that some ten or twelve years since, in the neighbourhood of West River, in Anne Arundel county, a kind of worm, or caterpillar, cut off whole fields of corn, near the ground, in a few days; he particularly recollects seeing them in a field, on the land of John Johns, Esq. and that ditches were cut, perhaps about a foot deep, to stay their progress from one field to another. Whether it had the desired effect he does not know. He thinks, the march of those destroying legions, was *southward*. Quere. Were these the common corn grub worm, and may they not make their appearance in such numbers periodically, as the locust is said to do? What seasons or soils are most productive of them? And what changes of form and character do they undergo? Why do not *country physicians*, who often unite the vocations of the lancet and the plough; who have the means, and ought to have the science requisite for such studies; why do they not turn their attention more to these things?

"A wit's a feather and a chief's a rod—
"A useful man's the noblest work of God."

FOR THE AMERICAN FARMER.

DOMESTIC MANUFACTURES.

No. 4.

Had we anticipated the masterly and patriotic address of the Philadelphia Society for the promotion of domestic industry, before the publication of our first number on domestic manufactures, we should gladly have remained silent: we should have blushed to speak on subjects to be simultaneously discussed in a manner far transcending our ability. And now, could we know that all readers of the *American Farmer*, would peruse the numbers of that excellent address, no more of our comparatively trifling essays should appear. But our belief to the contrary, and the expectation which may have been justly excited, must be our apology for continuing our numbers. We are happy to find, in what we have seen of that grand production, some notions which we had conceived, fully confirmed; and we hope, not a little praise may be rendered to its author, if some of the bright rays, it has shed upon ourselves, should be occasionally but faintly reflected upon our readers.

There has long prevailed an opinion that manufacturing establishments are; in their effects and tendency, injurious to the morals and dan-

gerous to the government of society. And from some unaccountable cause, so well founded has it been supposed, that few have presumed to question its truth. Undoubtedly it originated in the contemplation of such establishments in other countries, particularly in England. Without any allowance for the *high colouring* of the pictures generally presented to our view, there are reasons enough to persuade us that the opinion is altogether erroneous, especially so in regard to our own country.

The magnitude of the evil, in so far as it is thought to spring from *large collections* of labourers, must be greater in England than it can be in the United States. The population of Great Britain exceeds that of the United States. The extent of the former is not probably more than one twentieth of that of the latter. So that if all her factories were equally scattered over all our states, their magnitudes would be vastly diminished or otherwise the distances between them would be vastly increased. In either case, *if the moral and political state of the two countries were the same*, such tumultuous assemblages of manufacturers, as we are informed, sometimes rise up in England and threaten to shake the throne of the kingdom, could never be formed in the United States. Besides Great Britain manufactures enough to supply three or four times her own population: our object is to supply only our own. We should not therefore need more than one third or one quarter, of the number of hands she employs; supposing our use of machinery proportionably as extensive as hers. If then we had as many manufacturers as would be requisite to supply our own demand, and all, from one extremity of the Union to the other, should assemble together, they could not possibly endanger our government, *were it as grievous as that of Great Britain*; inasmuch as hers continues to stand the stoutest blows of all her own manufacturers, three or four times the number we require, and capable too of being concentrated to a point with the twentieth part of the travel, and of course, in the twentieth part of the time, which would be requisite in our country.

But the moral and political state of the two countries are by no means the same. The government and taxes of England produce an effect among all classes of her people, especially the *labouring classes, whose wages are fixed at the minimum price of the bread and water of human subsistence*, which can never be produced by the mild government and liberal principles of the people of the United States. And would it not be gratifying to the feelings of every American citizen, to reflect that the garments, he wears, are the workmanship of men enjoying the blessings of his own happy government, *well paid for his labour*, and not *compelled to work for a few pence a week*, scarcely sufficient to prevent starvation; and if he pays a few cents in the yard more for domestic manufacture on account of the more liberal wages of the workmen; would not his heart swell with the noblest feelings of humanity on considering the cause of his paying it!

But what has been taken for granted is not true. It does not appear from facts, that manufacturers, even in England, are more debased,

more immoral or wicked, than other classes of people. The contrary seems well established. According to the latest and most correct computations of *offenders and paupers* in England, it appears, that their number in the manufacturing counties, in proportion to the population, is uniformly far less than in the agricultural counties. In Lancashire, Yorkshire and Stafford, manufacturing counties, the *offenders* are only one in 2500; in Norfolk, Kent and Surrey, agricultural ones, they are one in 1600.* This is an undeniable fact. Thus then the introduction of manufactures would tend to improve the morals of an agricultural people. And this, however contrary to the prevailing faith, appears not improbable, when we reflect that *idleness is the mother of mischief*, and that labourers in factories, men, women and children, are, in general, pretty busily employed, while thousands among the families denominated agricultural, are idle and roving a great portion of their time, during which, they cannot be innocent.

Nor do we believe that there can be found more evil, in a given number of labourers in factories, than exists in an equal number of the inhabitants of a city, especially a port, which, however small, affords the greatest possible facility for the generation and propagation of corruption in morals. The seeds of all sorts of evil are plentifully sown, and they spring up and produce abundance of fruits.

There is no evil in the nature of the labour itself. No person can be contaminated with the loom, any more than with the axe or with the plough. And all the bad consequences that can possibly result from the congregation of individuals in manufacturing establishments, can and will be prevented in the United States, more effectually than in any other country, at present on the face of the globe. The example of Col. Humphreys' factories in Connecticut, will prove this assertion, if it might not be unerringly inferred from the nature of our government, and the character of our people.

After all, an object of the greatest utility, and of absolute necessity to the future prosperity of a country destined to give birth and growth and comfort and joy, to countless millions of inhabitants, is not to be abandoned, if it be *certainly* productive of *some evils* inseparable from human nature, in its present imperfect state.

OPIFICI AMICUS.

* See the Address of the Philadelphia Society, No. 5. and Colquhoun on Indigence, there quoted.

To attract the readers's attention to the following reflections on "*THE WASTE OF LIFE*," it is enough to say, they are from the pen of the illustrious FRANKLIN.

THE WASTE OF LIFE.

Anergus was a gentleman of good estate, he was bred to no business, and could not contrive how to waste his hours agreeably; he had no relish for any of the proper works of life, nor any taste at all for the improvements of the mind; he spent generally ten hours of the four and twenty in his bed; he dozed away two or three more on his couch, and as many were dissolved

in good liquor every evening, if he met with company of his own humour. Five or six of the rest he sauntered away with much indolence the chief business of them was to contrive his meals, and to feed his fancy before-hand, with the promise of a dinner and supper; not that he was so great a glutton, or so entirely devoted to appetite; but chiefly because he knew not how to employ his thoughts better, he let them rove about the sustenance of his body. Thus he made a shift to wear off ten years since the paternal estate fell into his hands: and yet according to the abuse of words in our day, he was called a man of virtue, because he was scarce ever known to be quite drunk, nor was his nature much inclined to lewdness.

One evening as he was musing alone, his thoughts happened to take a most unusual turn. For they cast a glance backward, and began to reflect on his manner of life. He bethought himself what a number of living beings had been made a sacrifice to support his carcase, and how much corn and wine had been mingled with those offerings. He had not quite lost all the arithmetic that he learned when he was a boy, and set himself to compute what he had devoured since he came to the age of man.

"About a dozen feathered creatures, small and great, have one week with another (said he) given up their lives to prolong mine, which in ten years amounts to at least six thousand.

“ Fifty sheep have been sacrificed in a year, with half a hecatomb of black cattle, that I might have the choicest part offered weekly upon my table.—Thus a thousand beasts out of the flock and the herd have been slain in ten years time, to feed me, besides what the forest has supplied me with. Many hundreds of fishes have in all their varieties, been robbed of life for my repast, and of the smaller fry as many thousands.

"A measure of corn would hardly afford fine flour enough for a month's provision; and this arises to above six score bushels; and many hogsheds of ale and wine, and other liquors, have passed through this body of mine, this wretched strainer of meat and drink.

"And what have I done all this time for God or man? What a vast profusion of good things upon a useless life, and a worthless liver? There is not the meanest creature among all these which I have devoured, but hath answered the end of its creation better than I. It was made to support human nature, and it hath done so. Every crab and oyster I have eat, and every grain of corn I have devoured, hath filled up its place in the rank of beings with more propriety and honour than I have done: O shameful waste of life and time!"

In short, he carried on his moral reflections with so just and severe a force of reason, as constrained him to change his whole course of life, to break off his follies at once, and to apply himself to gain some useful knowledge, when he was more than thirty years of age; he lived many following years, with the character of a worthy man, and an excellent Christian; he performed the kind offices of a good neighbour at home, and made a shining figure as a patriot in the senate-house; he died with a peaceful conscience and the tears of his country were dropped upon his tomb.

The world, that knew the whole series of his life stood amazed at the mighty change. They beheld him as a wonder of reformation, while he himself confessed and adored the divine power and mercy, which had transformed him from a brute to man.

But this was a singular instance ; and we almost may venture to write MIRACLE upon it. Are there not numbers of both sexes among our young gentry, in this degenerate age, whose lives thus run to utter waste, without the least tendency to usefulness ?

When I meet with a person of such a worthless character as this, it brings to my mind some scraps of Horace,

Nos numerus sumus, & fruges consumere nati.

- Alcinoique Juventus

Cui vulchrum fuit in Medios dormire dies, &c.

PARAPHRASE.

There are a number of us creep
 Into this world to cat and sleep ;
 And know no reason why they're born,
 But mieriely to consume the corn,
 Devour the cattle, fowl, and fish,
 And leave behind an empty dish :
 Though crows and ravens do the same,
 Unlucky birds of hateful name ;
 Ravens or crows might fill their places,
 And swallow corn and carcasses.
 Then, if their tomb-stone when they die,
 Ben't taught to flatter and to lie,
 There's nothing better will be said,
*Than that they've eat up all their bread,
 Drank up all their drink, and gone to bed*

There are other fragments of the heathen poet, which occur on such occasions; one in the first of his satires, the other in the last of his epistles, which seem to represent life only as a season of luxury.

————— *Exacto contentus tempore vitæ*

Cedut uti conviva satur

Lusisti satius, edisti satis atque bibisti ;

Tempus abire tibi.

Which may thus be put into English.

Life's but a feast ; and when we die
Horace would say, if he were by,
Friend, thou hast eat and drank enough,
'Tis time now to be marching off :
Then like a well-fed guest depart ;
With cheerful looks, and ease at heart ;
Bid all your friends good night, and say,
You've done the business of the day.

PLAN OF A PERPETUAL ALMANACK.

Feb.	Feb.	Jan.	Jan.	Sept.
March	May	April	June	
Nov.	Aug.	Oct.	July	July.
1	2	3	4	5
8	9	10	11	12
15	16	17	18	19
22	23	24	25	26
29	30	31		27

1819.—Monday,
 20.—Wednesday,
 21.—Thursday,
 22.—Friday,
 23.—Saturday,
 24.—Monday,
 25.—Tuesday,

1826.—Wednesday,
 27.—Thursday,
 28.—Saturday,
 29.—Sunday,
 30.—Monday,
 31.—Tuesday,
 ad infinitum.

Rule, to find the day of the month.

Observe the day of the week annexed to the year in the first column, look in the table for the month, and the numbers standing under each month are the days of that month on which that day of the week will fall in that year.

Note.—In leap years (where the day of the week in the first column is in *italics*) January and February must be taken in the columns in the table where they are set in *italics*—in other years in the preceding columns.

KITTEBY, (MAINE.)

Is destined to become a grand naval depot, for the northern section of the union. At this place the *Ranger*, of 28 guns; *America*, 74; *Portsmouth*, 28; *Crescent*, 36; *Congress*, 36; and *Washington*, 74, were built; all of them allowed at the periods in which they were constructed, to be well modelled and substantially built. In addition to the building of these *war vessels*, the timber, and other materials, are collected, to build a ship of the line, and two frigates at the same place. The keel of a ship of the largest class, is, it is understood, already laid, and the work of building to commence the present season.

Miscellaneous Communications.

ON THE MURRAIN,

A DISEASE INCIDENT TO HORNED CATTLE.

NO. II.

TO THE EDITOR OF THE AMERICAN FARMER.

SIR—The justice of the remarks contained in my former number, would, I have no doubt, be admitted, by any one who would undertake to treat on the subject which gave rise to them, and may therefore serve as a suitable apology for the crudity of what I may add at present.

Knowing that all derangements in the functions of animal life, are governed by certain laws, and therefore pursue a given course, as the healthy operations do—the first inquiry on such subjects is, to ascertain their nature, character and name, that we may be able to anticipate their results, and to profit by all experience in controlling them, rather than be left unarmed to provide for every exigency as it will arise to our view in the progress of the disease.

The disease called *Murrain*, or bloody water, although known from the earliest history, viz. the writings of Moses, cannot, I believe, be said ever to have been so defined or described, as to distinguish it from other diseases, very different in their origin and their nature. It is even doubtful whether the term originally purported more than a general meaning; and if it had any specific import, that seems to have been abundantly perverted or misapplied, whenever there occurred a paucity of such terms. Such appears to me to have happened with the disease prevailing in Pennsylvania; a disease, in my view, as to its origin and influence, extremely local and limited, in comparison with what all ancient history has represented the *Murrain* to be in those respects.

The statements published, concerning the prevailing disease, like almost every thing we get on such subjects, savour more of the luxuriancy of the marvellous, than of sedate and minute description; and appear to be written under the influence of panic, which ever dwells on remote and unmeaning contingencies, while it carefully shuns its real object. Little, however, as is reported concerning the symptoms of the disease, that taken with the dissections, its extent, and issue, exhibits, I think, very plainly, no more than a prevalent derangement of the digestive and biliary functions, causing rapid and violent disease and death, by obstructing the alimentary canal, and arising from incidental causes; a disease, which all animals, at all times, are subject to as casualties; and which, in all, is sometimes apparently epidemical, when the existing causes are very general, and acting on a predisposition, as, in the present instance, may be shown to be the fact; unless very material and striking symptoms and circumstances are kept out of sight.

The disease presents, as its leading features, in its constant march, obstructed bowels, attended, as usual, especially in brute animals, from their different pastures, with sympathetic and mechanical affection of the bladder; a state of the urine, indicating by its appearance, no more than *that*; the inflammation and mortification in which the obstruction results, and in no wise exhibiting these very general, and varying, and conspicuous symptoms, which belong to all virulent epidemics.

It is possible this disease may depend on an intermittent or remittent influence, obscured by the violence of the local affections, as it often does in the human species. I shall hereafter show, that brute animals are not susceptible of such influence; but it is not very material, to any useful purpose, in the present case. Exclusive of such influence, are not there obstructions, in all animals, more prevalent and virulent in some seasons than others, according to the want, or excess, or morbid condition of the bile, and other secretions belonging to the alimentary canal, caused solely by contaminating food and drink, acting in connexion with certain states of the weather, and without primary fever, as in cholera? Panic affects the mental, as the fog does the optical vision. Would you, sir, really think that you saw in some dozen dead cattle in Pennsylvania, *that* Murrain, so celebrated in history—so memorialized in everlasting Record, by having been made one of the curses on Pharaoh—one of the Plagues of Egypt:—"Behold the hand of the Lord is upon thy cattle, which is in the field; upon the camels, upon the asses, upon the oxen, upon the sheep; there shall be a grievous Murrain." In England, and on the continent, as in Egypt, devastation, the most universal and overwhelming, has ever marked its train. Lancisi estimated the loss of cattle in Italy, in one year, at thirty thousand. There it was attended by inflammation of the bowels and bladder; not, however, proceeding solely from actual obstruction of the passages, causing death by mortification; but accompanied by a febrile disorganization of all the functions; producing rapid dissolution, in various ways, as every epidemic fever must.

The Murrain is defined by synonymists, a species. 1st. Stock affected with bowel or bladder complaints, in spring or fall, should be immediately withdrawn from their pastures and usual watering places, allowed no food but nutritive, demulcent and diuretic drinks. 2. The state of the evacuations should be carefully watched, and when threatened with the prevailing disease, let blood, and repeat it daily, while the strength is not too much impaired; the object is to counteract stricture and inflammation, which must arise from the irritation of the bowels, by the morbid ingesta or icentious thrown into them. 3. With the bleeding must be used, full doses of the mildest purgatives, as a bottle of castor oil repeated daily, or two pounds of glaucous salts, with two bottles of linseed oil, daily. 4. Injections of the linseed oil and salts, should be used twice a day, taking care in using the pipe, not to poke it into the gut, if it should reach the obstruction. 5. Back raking should be tried, but cautiously and early in the disease, before inflammation takes place. 6. The belly should be scalded with hot water and dressed with tar, if the above remedies do not act to counteract internal inflammation. 7. If the tongue is filthy and the oils do not act, give half an ounce of calomel and as much aloes daily, in addition, and finally, if either under the powerful operation of these remedies, notwithstanding copious nourishing drinks poured into the stomach, or the total failure of them, the strength should decline fast, the tongue get black and dry, and the beast drowsy, give 20 grains of opium and 20 grains of camphor, every 6 hours, and hot whiskey toddy with juniper berries boiled in it.

In the spring, when green herbage is eaten voraciously, although provident nature has armed her bestial race with superior botanical skill, yet, in the haste of hunger and lust for dainty food, their solid learning may not always discriminate. The poisonous weeds abound, and compel the skilful botanist to cull the bitter with the sweet or forego his treat—the Hellebore, the John's Wort, the James Town, the Lark Spur, the Crow Foot, the Fox Glove, entwine the salubrious shoots; and a mass of indigestible herbage is swallowed, where the selection is scanty, and of both more and different kinds abound in one year than another, and their morbid efficiency more or less aggravated by the corresponding season.

The muddy pools, too, which black cattle prefer, are apt to be contaminated, and either surfeited with stagnant rain, or digested by drouth to a poisonous condition. These causes, of course, are not very confined in their range, and must extend their districts according to the accidental climate and products of the year, and their effects, graduated by their degree of virulence and the subjects within their reach. To such causes have always been ascribed such diseases as exist at present in the cattle of Pennsylvania. The animals from abroad, less accustomed to the new climate and mode of living, are more susceptible of disease, and consequently the first attacked. What, then, but fondness for the marvellous, leads us to look for pestilence in every blast—to seek in remote and extraordinary causes what the obvious and simple are fully adequate to explain? At spring and fall seasons, damp and variable weather, with change of aliments, derange the biliary and other secretions, in all animals, causing obstruction and other diseases of the bowels, extensively prevalent as the cause, and deleterious as the effect; since the alimentary functions cannot be stopped, without speedily ending in mortification, however simple the cause of the obstruction may be.

And what are the remedies in this state of things? In vain would we explore the causes and character of such things, unless some useful practical deduction can be made from them. It is not in the miseries even of brutes, that fancy would saunter, however curious might be her developments; and wretched as is the state of our learning in their concern, some little aid, it is hoped, might be afforded in an affair so simple, as the present, unless the writer of this is grossly deceived in his view of it.

It so happens, that diseases of the bowels and bladder, are then, in brute animals, of the few, which resemble the human species. The obstructed bowels would not kill in a day, but it is obvious the disease would have existed long, say a week before it was noticed, and treated only in its extremity, when every thing adapted to its early stage would only accelerate its issue. I will not dwell here, on the futile treatment and trifling remedies generally administered to brute animals, in comparison with the human

species. 1st. Stock affected with bowel or bladder complaints, in spring or fall, should be immediately withdrawn from their pastures and usual watering places, allowed no food but nutritive, demulcent and diuretic drinks. 2. The state of the evacuations should be carefully watched, and when threatened with the prevailing disease, let blood, and repeat it daily, while the strength is not too much impaired; the object is to counteract stricture and inflammation, which must arise from the irritation of the bowels, by the morbid ingesta or icentious thrown into them. 3. With the bleeding must be used, full doses of the mildest purgatives, as a bottle of castor oil repeated daily, or two pounds of glaucous salts, with two bottles of linseed oil, daily. 4. Injections of the linseed oil and salts, should be used twice a day, taking care in using the pipe, not to poke it into the gut, if it should reach the obstruction. 5. Back raking should be tried, but cautiously and early in the disease, before inflammation takes place. 6. The belly should be scalded with hot water and dressed with tar, if the above remedies do not act to counteract internal inflammation. 7. If the tongue is filthy and the oils do not act, give half an ounce of calomel and as much aloes daily, in addition, and finally, if either under the powerful operation of these remedies, notwithstanding copious nourishing drinks poured into the stomach, or the total failure of them, the strength should decline fast, the tongue get black and dry, and the beast drowsy, give 20 grains of opium and 20 grains of camphor, every 6 hours, and hot whiskey toddy with juniper berries boiled in it.

Notwithstanding my aversion to write on a subject, in which I feel myself a novice—it will be necessary for me to trouble you with another number to illustrate the remarks I have here made.

TO THE

Lieutenants and Midshipmen.

OF THE UNITED STATES NAVY.

In my former letters, I endeavoured to show, that it is the wish of your country, to have an efficient navy, and to point out to you the mode to be pursued to qualify yourselves for the high trust which is reposed in you.

My present intention, is to satisfy you, that the course I have recommended, is the more necessary, inasmuch, as every effort is making, on the part of England, to prepare herself for the contest, which, in all probability, will sooner or later take place between the navy of that nation and our own; a contest, which, when it does happen, will, no doubt, be productive of much bloodshed on both sides, and will owe its success as much to the skill of those who direct it, as to the physical force employed.

You have seen, in the events of the last war, that success does not always depend on numbers; had this been the case, our little navy, according to the predictions of those who had been educated in a confidence of the invincibility of England's fleet, would have soon been "swept from the ocean," but the contrary was the case; we not only maintained our ground there, but made considerable augmentations to our force, as well by the capture of the enemy's vessels, as by new

ships. It was more to the skill of our commanders, and the good discipline established by them, and their prudence, and forethought, than to the qualities and magnitude of our ships, that this success is to be attributed;—without this skill strength would have been useless in their hands, and our ships, in their encounters with those of England, would, in all probability, have shared the lot, which has so often fallen to those of all other nations.

If it should be asked, how this skill was produced, in a nation so young, and whence the forethought arose, which brought the conflict to so honourable a termination? I answer, that doubts of their own abilities produced, on the part of the commanders, the most unremitting attention to every thing that related in the slightest degree, to their duty.

Have you not seen commanders appointed to ships when their keels were laid, attend to their construction, their armament, equipment, and discipline? and to the instruction of those who were to second them in their duties? Nothing that related to their ships, was considered derogatory to them; every thing, even the most minute, underwent their inspection; what they were ignorant of they learnt, and what they learnt, they imparted to others; the whole efforts of their minds, were devoted to a pursuit of the knowledge requisite to perfect them for the stations they occupied, and the responsibility they were to encounter: It was by such means, that they obtained, what, in other navies, is only acquired by a long and tedious servitude. And are you not aware, that our belief in the skill of British commanders, and the discipline which appeared on board their ships, as well as their general successes, produced in our minds an idea, that they were enemies which required every exertion to make ourselves equal to. The exertion called for was made by those who then had in charge the support of the national honour; and their success was far beyond their own, and their country's most sanguine hopes.

While the officers of our navy were struggling to produce this result, those of England, blinded by an idea of their own superiority over all other nations (a sentiment produced by their numerous and easily obtained victories over the navies of Europe) and attributing more to a skill, which was believed to be inherent and unequalled, than to their numerical superiority, neglected those essentials, which can alone render a ship of war efficient.

Mr. WILLIAM JAMES, in his voluminous, (and as regards ourselves, illiberal) account of the naval occurrences between Great Britain and America, enumerates, as the causes of the disasters which happened to them, at the commencement of hostilities, the infrequency of meeting an enemy sometime previous to the war; habits of inattention among both officers and men, and a laxity of discipline in all the essentials of a man of war.

Instead of the sturdy occupation of exercising the guns, the men were employed in polishing the training bars, elevating screws, copper on the bits, &c. and other work, calculated to show the ships off to the best advantage.

Ships in this state, were considered sufficient to assert the rights of England against France and Spain; and the question was not as to the

state and discipline on board of them, but as to the number employed.

In June, 1812, when the war with Great Britain commenced, the British navy consisted of seven hundred and forty-six ships. Before the war had closed, they found, by dear-bought experience, that the practice which had been adopted, in regard to other nations, must be varied with respect to us. None but their bravest and best disciplined ships, were sent to cruise, singly, when there was a probability of their meeting ours, and seldom on our coasts, except in squadrons; our ships, few in numbers, employed all their attention, and each commander felt himself individually responsible for the character of the nation.

When the war closed, the first care of those who administered the affairs of England was, to prepare for a new contest with us, by eradicating the evils which had crept into their service; their navy was reduced; their old ships broken up, or sold, and new ships, of classes corresponding with ours, were built. At present, the number of vessels of war, of every description, in commission, in the British navy, consists of one hundred and thirty-seven; viz. 24 sail of the line, (not half officered and manned,) 45 frigates, 57 sloops of war and brigs, and 11 yatches. The best officers of their navy are selected to command, and their best seamen to man them; the rest are permitted to retire on half pay, and seek employment in other services; and it has been recently declared, by more than one member, on the floor of parliament, that the British navy is now in a better condition than it has ever been at any former period.

The persevering, indefatigable, and enterprising admiral, Sir GEORGE COCKBURN, is now one of the lords of the admiralty; and it has also been asserted, in the same place, that he is most assiduous in the performance of his duties in the board—that from the time of his appointment, up to that period, he had not allowed himself any cessation from business,—plans for the improvement of the navy, deserving the consideration of the board, are pouring in from all quarters, and the business of the admiralty had increased, beyond what it was at any former period; and, notwithstanding the great reduction of the number of the ships of the navy, so great was the pressure of the business of the admiralty, that a motion to reduce the number of the lords which compose the board, was lost by a large majority.

To the reverses experienced in their contest with us, and to the inferior discipline of their ships, compared with that of ours, even at the close of the war, may be attributed this extraordinary desire now to make their navy more perfect; and can it be, for a moment, believed, that there will be any, the slightest relaxation, while admiral Cockburn, who knows so well the causes of our success, maintains his present influence in the councils of that nation, or has health and strength to devote his energetic mind to the concerns of its navy?

Compare the present state of the British navy with what it was at the close of the war with France. I shall use the words of the "Post Captain," mentioned in my former letters,—"It is beyond a doubt, that at the conclusion of the war, (alluding, I presume, to the war with France)

more than one half of our ships of the line were in such bad order, and so infamously manned, as to render them unequal to contend with a disciplined enemy: they would have beaten a French or Spanish ship, who were more than themselves; but I will stake my existence, had an American line of battle ship fallen in with one half of them, they would have been taken."

England, then, it appears, has discovered her error; she seems determined to guard against it in future; she has no naval nation to apprehend but the United States, and all their efforts are directed towards the means of preparing themselves to struggle with the navy which is rapidly rising on this side the Atlantic. We have once shown them what it is to contend with "a well manned and well disciplined" enemy; should your country again unhappily be involved in war, it will rest with you to fulfil the expectation she has formed of you, in supporting the character which has been established for you, or bear the shame which ought and will pursue you.

A NAVAL OFFICER.

FOR THE AMERICAN FARMER.

RUTA BAGA.

Knowing Mr. Cobbett to be ardent in all his undertakings, and believing that most men have hobby horses, I thought he might possibly be too partial to the *Ruta Baga*, or Swedish turnip; a root I had never seen before his publication. We, unlettered clod-hoppers, do not understand botanical terms, although we know that there are a great variety of every kind of plants. However, as Mr. Cobbett had pledged his veracity on the value of this root, I concluded to make a small experiment. A friend sent me a small quantity of seed, which had been procured from Mr. Cobbett, and I procured from Philadelphia another portion, some of the yellow, and some of the white kind, which I sowed about the fifteenth of August last. I sowed the three parcels separately from each other, broad cast. The yellow roots, in December, appeared to be exactly similar; I could discover no difference in the size or flavour, although both parcels of the yellow were not from Mr. Cobbett. The white roots were not near so large as the yellow, some of which were three or four inches in diameter, although sowed broad cast, and too thick, at the late season, the fifteenth of August.—There were but few of the white roots large enough to boil.

Having neglected to take them up before the first severe frost, they remained in the ground until February, when I took up the largest, and covered them with earth. I took them up again the latter part of March, and found them then, as good as they had been the early part of the winter; the small roots yet remain in the ground. A few days ago I had some taken up and boiled, and although they are not so sweet as they were in the fall, they are now very good turnips.

As to this root being so very productive, or valuable for feeding stock, I have no experience, but the small experiment I have made, has convinced me that it is a very valuable root for the table. I have never seen its equal as a turnip, either as a root, or for sprouts in the spring. Its

product greatly exceeds the cabbage stalk, and it is very similar in taste; and if not better, it is certainly not inferior: but doctors will differ, and there is no criterion for taste: but as to myself, I would prefer the young tender Ruta Baga to the cabbage sprout. If the first stem is cut early in the spring, it will put out four fold; and if properly attended to, I make no doubt, would produce young, tender sprouts, until peas, lettuce, early potatoes, and other summer vegetables come to perfection. The roots remaining in the ground all winter, the remains from the produce of two ounces of seed, has afforded as many sprouts as would have supplied several families; they are now very productive, and if they had been used or cut more profusely, they would have been more productive.

Every house-keeper who has a garden, should sow the ground which had matured a crop by the first of August, with Ruta Baga, for spring sprouts, to be left in the ground all winter, after selecting and taking up the best roots for boiling. The pea beds, the early potato bed, &c. &c. &c. which are generally planted with cabbage, at a season to late too produce a good crop, would be much more profitable if covered with Ruta Baga.

If this turnip is as productive as Mr. Cobbett says it is, it will certainly take place of every other kind; for it cannot be excelled in quality. Those intended for spring sprouts, ought to be sown later—a small turnip root will stand the frost better than a large one. They might be taken up in the fall, and planted out in the spring; but that trouble may be avoided by late sowing, and giving them a slight shelter in severe weather.

I shall save a considerable quantity of seed, and intend to make a fair trial of the value of this root, on Mr. Cobbett's method, and will hereafter, perhaps, give you the result. My experience is very limited, as yet; different seasons, will produce different effects, but I believe Mr. Cobbett's opinion and character of this root, will be found to be correct, and I tender to him my respects for introducing the Ruta Baga. [might I not say for forcing, for his ardour, in some measure, compelled every farmer to pay some attention to the subject] to the notice of the people of the United States.

Head of Chester, May 14, 1819.

BALTIMORE:

FRIDAY, MAY 21, 1819.

Those persons who have been disappointed in their applications for complete files of this paper, are informed, that a second edition of the first three numbers has been published, and that entire files may now be had.

If, by mistake or accident, the file of any subscriber has been broken, on notice being given, he will be supplied through the return mail, with the deficient numbers; but it is hoped, that this demand will not be made in any case where it can be avoided, as it is quite apparent, that all the extra numbers will be wanting, to supply the

unexpected, and, we believe unparalleled increasing demand.

TOBACCO.

The writer of the letter from which we make the following extract, will accept our sincere thanks. It is a matter on which information has been much wanting, and that want, he has, in a great measure, supplied.—The reader will recollect, that lime and a decoction of sassafras root have been mentioned in preceding numbers, of this paper, as probably efficacious for destroying the bugs, that infest the beds of young plants, sometimes totally destroying them. To what we have before mentioned, we may now add the experience of Mr. Launcelot Warfield, a highly respectable planter, of Anne Arundel County, who preserves his tobacco plants from the fly, by the use of fresh oyster shell lime, and never has occasion to beg plants of his neighbours. We had already translated from the French, for this number, a receipt for a preparation of a liquid for killing insects on plants, of which *sulfur* is a chief ingredient. The following observations of our St. Mary's correspondent, comes in corroboration of what the French farmer suggests: should either of these ingredients alone, in any case, prove ineffectual, it may be that of a compound of two or more of them would accomplish the desired end.

TO THE EDITOR.

Dated—"Oak Land, May 10th, 1819.

"The subject of Tobacco appears to interest our state deeply; and as the cultivation of it is rapidly extending in our county, we shall, at all times, be highly gratified to receive light on the various processes of cultivation and curing it. We have been dreadfully annoyed in our tobacco beds, by a small, black insect, called the fly, in appearance resembling the flea; they commenced their havoc with me, and I immediately made an attack on them with plaister of Paris, by sowing it over the beds, but without success. I then commenced on them with brimstone, pounded very fine. Of this I put eight pounds, mixed with a little ashes, on twenty-five yards square; the weather being very hot and dry, was much in its favour. This was the early part of the present month [May.] I had it sowed over the bed very early in the morning, and on the second and third day, I found a wonderful change produced: the fly, from having been very numerous, were already nearly cleared from the bed; and I was truly gratified to find numbers dead on the leaves of the plants, and the surviving ones so sickened, that I could, without any difficulty, lay the end of my finger on them. This remedy is applied at a small expense, and involves no inconvenience to the planter whatever. If this simple remedy be known to many parts of the state, it surely is not universally made use of; and if you think it is worth a place in your records, you can make an extract from my letter.

A St. Mary's Correspondent.

TO PRESERVE PLANTS FROM INSECTS.

Translated from the French.

Receipt of a liquid, which has the property of

destroying the insects, caterpillars, grubs, bugs, ants, &c. &c. &c. which attach themselves to plants, &c.

Take of black soap, best quality, 3½ pounds, brimstone, 3 do. wood mushrooms, 2 do. rain or river water, 60 pints; divide the water into two equal parts, take one half and put it into a barrel that is not to be put to any other use, melt the soap in it, and add thereto the mushrooms, after having bruised them a little; boil in a large pot the remaining part of the water, put the brimstone in a clean piece of lichen, and make a bundle of it, tied up with a twine, you must attach thereto a stone, or weight, to make it lay to the bottom of the pot: let it boil for twenty minutes, taking care to stir the water all the while, with a stick, that it may take the colour and strength of the brimstone; if you double the quantity of these ingredients, the effects of the water will be more sure. You must pour the boiling water into the barrel and stir it a second time, and every day it must be again stirred, until the whole becomes extremely fetid, the more old and fetid it is, the better. You must take care to have the barrel well stopped every time it has been stirred.

When you want to use this water, it is sufficient to pour some over the plants, but the best manner is, to decant it into a common watering pot, and sprinkle the plants therewith, which will have the desired effect.

N. B. The sediment remaining after the water is all drawn off, should be placed where none of the domestic animals can have access to it.

RUTA BAGA.

While we offer our sincere thanks to the much respected writer of the remarks on the Ruta Baga, which appear in this paper, we must express our regret, that we are not allowed to give it the weight and sanction, which his name, so well known and so deservedly respected among agriculturists, would have communicated. Hitherto, this root has been chiefly considered as a source of provision for live stock. The view taken of it by our correspondent, as a means of raising the most early and abundant supply of fine vegetable diet for the table, is new and every way worthy of attention. Much as has been said about Ruta Baga, already, we are fully persuaded the reader will thank us, as we do the writer, for treating him with this new dish of it.

INSURRECTION.

Some little alarm has been excited in Augusta, Georgia, by the raising of people of colour. One *Coco*, or *Coote*, one of the brigands of St. Domingo, appears to have been the principal; who has been tried, and sentenced to be hung. Several others, it was expected, would share the same fate.

CALL OF CONGRESS.

The public mind has been, for some days past agitated by the suggestion, at first in the Philadelphia *Aurora*, of a probably anticipated convention of Congress. A number of reasons have been suggested, in justification of such a measure, none of which are cogent enough, however, in our judgment, to warrant such a procedure.

FRENCH CEMENT.

This Cement is designed as a paint for the roofs of houses. It answers all the purposes of common paint, and also protects the roof from fire. Those who are erecting new houses, or are about to paint the roof of old buildings, would do well to try it. The expense of painting a roof in this way, would be much less than in the common method. The cement becomes very hard and glossy, and is said to be more durable than the best kind of paint.

Receipt for making it.

Take as much lime as is usual in making a pail full of whitewash, and let it be mixed in the pail nearly full of water; in this put two and a half pounds of brown sugar, and three pounds of fine salt; mix them well together, and the cement is completed. A little lamp black, yellow ochre, or other colouring commodity, may be introduced to change the colour of the cement to please the fancy of those who use it. The gentleman who furnished us with the receipt for making it, observed, that he had used it with great success, and recommends it particularly as a protection against fire. Small sparks of fire that frequently lodge on the roofs of houses, are prevented by this cement, from inflaming the shingles. So cheap and valuable a precaution against this destructive element, ought not to pass untried. Those who wish to be better satisfied of its utility, can easily try the experiment, by using a small portion of the cement, on some small temporary building; or it may be tried on dry shingles put together for the purpose, and then exposed to the fire.

At a meeting of the Board of Trustees of the Massachusetts Society for promoting Agriculture, held at the house of the Hon. Mr. Welles, April 10, 1819.—

A letter was read from George G. Barrell, Esq. American Consul at Malaga, to the Corresponding Secretary of the Society.

Mr. Barrell sent a pair of Spanish Pigs, valuable for the ease and economy with which they may be fattened; three bags of Spanish Wheat, and a nest of Milk Pans, very large, and much esteemed in the Spanish dairies.

It was voted, that the thanks of the Society be given to Mr. Barrell, for the friendly offer of his future services, and for his attention to the agricultural interests of his country.

The Wheat will be given to gentlemen desirous to try it, and who will be willing to report to the Society their mode of culture and success, if they will take the trouble to call for it, at Mr. Guild's office, No. 20, State street.

Caterpillars are very numerous this season. It is hoped that the farmers, and particularly those who are members of the Worcester county Agricultural Society, will not incur the disgrace and loss of having their trees eaten up by such vermin, when it can be so easily prevented. A correspondent assures us, that salted *hog's fat*, applied to the nest in the evening, by means of a rag tied on the one end of a pole—is an effectual cure.—*Mass. paper.*

CHARLES II. AND THE SAILOR.

In the reign of king Charles the second, a sailor having received his pay, resorted to a house of ill fame in Wapping, where he staid all night and had his whole substance taken from him. In the morning he vowed revenge against the first he should meet with, possessed with cash; and accordingly, overtaking a gentleman on Stepney Fields, to whom he related his mishap, he insisted on having his loss being made good. The gentleman for sometime expostulated with him on the atrocity of such behaviour, but to no purpose, the tar was resolute, and the gentleman dread of worse consequences, delivered his purse, but soon after had the sailor taken up, examined, and committed to Newgate; from whence Jack sent a shipmate, with the following strange epistle to the king:

“*King Charles,*

“One of thy subjects, the other night, robbed me of forty pounds, for which I robbed another of the same sum, who has inhumanly sent me to Newgate, and

swears I shall be hanged; therefore, for thy own sake, save my life, or by— thou wilt lose the best sea man in thy navy. Thine,

Jack Skifton.”

His majesty, on the receipt of the letter, immediately wrote as follows:

“*Jack Skifton,*

“For this time I'll save thee from the gallows; but if, hereafter, thou art guilty of the like, by—I'll have thee hanged, though the best seaman in my navy. Thine,

Charles Rex.”

The Agricultural Society of Maryland,

will meet at Gadsby's hotel, in the city of Baltimore, on the first Wednesday, (that will be on the 4th) of June, next.

It is hoped, that the members will be punctual in their attendance, and that arrangements will be made to give stability and system to the operations of an institution so well calculated to promote the best interests of the country in these difficult times.

For the attainment of this result, much depends on the zeal and diligence of the Officers.

A fine example of activity and public spirit, has been set to the *Mother Society*, by its offspring at Easton. The President there, has performed his part with that earnestness and intelligence, which have rendered him so deservedly eminent as a practical Agriculturist; and the well known industry and talents of the President of the mother Institution, justify the hope, that at the annual meeting of the Society, the valuable purposes for which it was established, will be exposed, and the means of attaining them clearly indicated. The numerous letters we are daily receiving from all parts of the United States, expressing satisfaction at the establishment of an *Agricultural paper*, even such a one as ours, testifies us that a most auspicious spirit pervades the whole country; we should deeply regret that our native state should fall behind in a competition so honourable. Let politicians quarrel for place or principle; but let all unite in agricultural exertions, to embellish the face of our haggard and exhausted country, and thereby increasing the means of solid comfort, abundance and happiness.

Present prices of Maryland produce, in the Baltimore Market.

TOBACCO.—We begin with this as the heaviest article—most liable to material variation, and requiring to be spoken of more specifically, and more in detail than others. We repeat what we think we have a right to do that we gather the *prices* of all things by personal inquiry, and with great care and rigid investigation.

Virginia Tobacco—common, \$8 to 8 50—good quality, \$9—very fine, \$10 to 10 50—sweet scented, \$12 to 14.

Eastern Shore and Potomac, \$8 and 10.

Patuxent, best quality, \$11 and 13. Ten hogsheads, very fine, made by Zephaniah Waters, near Benedict, sold on Wednesday, for \$13 and 15.

Wagon Tobacco—\$13 to 17.

Corn 52 cents.

Wheat, red, \$1 40.

white, \$1 50.

Rye—99 cents.

Oats—59 to 56 cents.

Beef, best butcher's, 12½ cents; Mutton, 10 do; fresh Pork, 10 to 12½ do.; Veal, best 12½ do.; per quarter from the wagons, \$1 to 1 25; butter, 37½ cents; Eggs 15 do.

Hay, per ton, \$18 to 19; *Straw*, do, \$10 a 13.

PLOUGH GEAR.

We have seen in use, in a particular neighbourhood in this state, wooden hames or collar, as a substitute for the leathern, or corn-husk collar, which we believe to be worthy of general adoption—particularly where mules are used. These hames are made of seasoned swamp willow, which is light, soft and tough. Its recommendation consists in the less liability to galling, strange as it may seem; and this arises from its being comparatively much cooler than the large, heavy leathern

or corn husk collar, which comes in contact with a large portion of the body excites much perspiration, and thus galls the animal. The willow collar, on the other hand, is made to fit fairly and smoothly, touches a small space, is very light and easily kept clean—on which much depends. The great secret for preventing galling, is to keep the harness clean, and to wash the part with clean cold water, where the saddle or harness touches.

BUTTER.

The following is given as an improved method of preventing the bitter taste which butter has, at this period of the year, from cattle feeding on turnips, cabbages, leaves of trees, &c. Boil two ounces, of saltpetre in a quart of water, and put two or more spoons full, according to the quantity of milk, into a pail before milking; if this is done constantly, it will prevent the taste of turnips, but it will not be effected if even once neglected. This has been proved by twenty years' experience, and if it does not succeed, the farmers may rest assured, that the fault arises from the neglect of their dairy maid.

JUST PUBLISHED,

AN ORATION, delivered on the 17th of March, 1819, at Washington Hall in the city of New York, before the Shamrock Friendly Association, by Stephen P. Limone, Esq. For sale at the office of the Globe, No. 5, Burling Slip, price 37½ cents.

Prepared for the press, and will be published in six days, A SERMON, delivered in the Catholic Cathedral of St. Patrick, in the city of New York, on the Sunday, after the first of March, 1819, by the Rev. William Taylor. For sale at the office of the Globe, No. 5, Burling Slip, price 25 cents.

The above oration is, perhaps, the most interesting display of patriotism and oratory that has ever been delivered on a similar occasion.

Of the talents of Mr. Taylor, it is needless to say more than that they are known, established, and admired. His sermon drew forth the eulogy and tears of a large congregation. The oration and sermon taken together, give a fund of Irish history, such as no person should lose the opportunity of possessing.

The second number of the GLOBE is ready for delivery. It contains the Agricultural cuts which were promised.

The Globe will be published monthly, and divided nearly as follows:

Affairs of the United States,	16 pages
Ireland,	16 do
Other foreign countries	16 do
Miscellaneous,	16 do

Six numbers will make a volume of 384 octavo pages. Price three dollars, payable in advance.

Orders for transmission by mail, of all, or any of the above works, will be promptly attended to, by

T. O'CONNOR,

Editor of the *Globe*, New York.

Letters, covering less than five dollars, must come free of postage.

Post-Masters, friendly to literature, are requested to forward such subscriptions as may be offered to them.

May 7.

LEWIS'S ORATION.

Mentioned as above, just received and for sale by EDWARD J. COALE.

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,

BALTIMORE,

AT FOUR DOLLARS PER ANNUM,

PAYABLE IN ADVANCE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolus." . . . VING.

VOL. I.

BALTIMORE, FRIDAY, MAY 28, 1819.

NUM 9.

AGRICULTURE.

From the Memoirs of the Philadelphia Agricultural Society.

Notices for a Young Farmer,

Particularly on Worn Lands, &c. &c.

WITH NOTES BY THE EDITOR OF THE FARMER.

(Continued from No. 8, page 59.)

Lime; when, and how profitably applied. *Indian Corn*; modes of planting. *Rotting* or *decaying* the sod. *Harrow* preferred to the plough, for cleaning and dressing corn. Some remarks on southern farming.

IV. You gain a season in the wholesome efficacy of *lime*, by spreading and harrowing it well in, on your fall-ploughed fallows. Its causticity is thus mitigated or destroyed by winter exposure; and you may the more safely use dung the ensuing season, for your crops, without danger of injurious effects from hot lime.

If you plant Indian Corn, on either fall or spring ploughed sod fallow, (or any other) deeply tilled, (and it is the most desirable and cleaning crop,) plaster the hills—as they are technically called—or sow the gypsum over the whole field; and some do both, after the plants are sufficiently forward. The seed should be wetted and rolled in plaster or steeped in a decoction of Hellebore or Copperas; or, what produces surprising effect, a strong solution of Saltpetre; but do not soak or steep it too much. In dry weather, the germination is accelerated, by the steeping injuriously; so that the plume and radicles perish; and in long wet seasons, they rot. The sod having been broken up 5 to 7 inches deep; or if more, the better; requires shallow planting. If it be cut with a counter harrow, the better will the crop thrive. Being unturned, the sod becomes of itself a manure. Although it may not entirely rot, its incapacity to vegetate is ensured; and the soil is left filled with decayed vegetable matter, auxiliary to the corn product, and a palatum for appropriate manures. But frequent harrowing must not be neglected; whether you shall plant in squares or drills, and at what distances, depends much on the state of your field, the nature of your soil, and not a little on opinion; which varies much on this subject, and is frequently operated upon by success in the mode which happens to be fortunate. Some have spoken favorably of planting Corn as early as it can well be got in the ground; and they do not fear the annoyance of late frosts. It might by this means be vigorous enough to resist the Grub, or grow after being cut off by them.

Some have succeeded in planting late, so that the Cut-worm is passing away before it sprouts. The first mode is more secure from early frosts in the autumn.

Unless its situation and circumstances forbid, lay your Cornfield level, rather than in ridges; that moisture, in light soils especially, may be retained, instead of passing away, and, if necessary, draw water furrows, to carry off accidental flooding by rains, or other causes. Cleanly farming is essentially necessary, with the hoe and common harrow, to prevent grass and weeds from growing; and to assist in rotting the sod. Use the plough little, if at all; and the harrows much. Ploughing up furrows to the Corn plants, is an impediment to the harrowing culture, carries off moisture from the plants, exposes the accumulations of earth soon to dry through, and is worse than useless. If you must ridge low and wet soils, still the hoe and common harrow should be diligently used. Pulverize your ground, and the plant will be nourished and supported by the length and vigour of multiplied roots, and never require hills, or elevated furrows.

Transplanting, from a seed bed, sown early, broad cast, in or convenient to your Corn field, or with supernumerary plants, from other hills, is far preferable to using seed corn for supplying defective hills, cut off by the grub, or otherwise vacant. Plants overtake and keep pace with those uninjured; but renewals with seed corn, seldom arrive at maturity.

Salt is used for destroying grubs, worms, &c.; and has been successful in killing, or banishing the corn grub. Old pickle, or refuse meat, or fish, dispersed in small quantities, in mole tracks, has banished moles from gardens, or fields.

It being the intent of these Notices, to recommend, not to dictate, it is deemed proper to mention, that Col. Taylor, of Virginia, (and his practice is followed by many southern farmers,) pursues a mode of cropping with Indian Corn, directly the reverse of the one herein recommended, and an account of it may be seen in his *Arator*. He breaks up, however deep; lays his field in high ridges,—possibly, his soil and surface may so require,—in a north and south direction; burying his coarse (corn-stalk) manure, to rot in his soil; and in succeeding Corn crops, after a lapse of some years, the rows are planted over the former deep furrows; the crowns of the new ridges, occupying the places of those furrows. Many pursue his practice, and speak favourably of it. To us, who prefer laying our fields level, for the scythe and grazing, this mode would not be eligible. It may be some soils, as it regards the culture of the Corn crop merely, have its advantages. It resembles in some particulars, Mr. Gregg's practice on wet heavy soil,

mentioned in our second volume. Col. Taylor's plan may be seen in his Essays on the subject. In this mode, deep ploughing is essential; and it is as much so in the level culture; for, with shallow ploughing, moisture would soon evaporate, though not so much as if ridged, and a greater surface exposed to drain and dry. Many who prefer ploughing in grain, lay their fields in broad lands, and harrow after ploughing in.

Wheresoever the harrow has been fairly tried, its advantages over the plough, in the Corn crop, have, been decisively shewn. Corn in drills, on a sod deeply ploughed in, the rows 4 feet apart, and the plants 18 inches asunder, and thereafter entirely cultivated with harrows, has produced crops, beyond the belief of those wedded to the old mode of culture. Some have found great advantages in the culture of Corn in wide rows; and potatoes, well manured, drilled between them.

It is evident, that this and other modes of practice herein mentioned, are calculated for farms of the extent deemed competent in our part of the Union; where permanent cleanliness, and valuable covers of grass, for hay and pasture, are contemplated. In southern sections, where the mere grain crop is the object, and vast extent of surface occupied; so that numbers of acres are multiplied to produce an aggregate which might be had from a few; such details of operation for dressing and cleaning the soil, and being highly assistant to the immediate crop, would be considered as inapplicable and unnecessary. But until in those districts, some such practices are used in less extensive husbandry, and more commonly introduced, landholders should not complain of broom-straw, and other noxious pests, overrunning and sterilizing their worn and finally abandoned fields; urged on their march to poverty, by double cropping, and rearing farming. Great advantages might, however, be now taken of former mismanagement, by pursuing some such means to recover waste and abandoned lands, by using the spontaneous growths of scrubby timber, first for cover, after felling, and then burning it; as Col. Taylor has practised. See 1 vol. Philadelphia Memoirs, pages 82, 8, 9. He has not only set an encouraging example for farther experiments; but has afforded the strongest proofs of the benefits resulting from cover and fire, on soils. From experience in the like experiment, it could be shown, that his cover remained unnecessarily long unburnt.

If the numbers of Slaves are burthens on the southern landholders, in the farming districts; confining their attention to a better style of agriculture on a smaller scale, would relieve them. If emancipation or colonization be prudent and practicable, those emancipated or colonized,

might be spared, when fewer labourers were required in improved husbandry. If less land were occupied in exhausting culture, there would be a surplus, for a white population to cultivate to greater advantage. The improved state of the husbandry in some of the counties of Virginia, particularly Loudoun, is an example of peerless value. The plaster and clover culture has produced there, almost magical effects. Deep ploughing is much practised.

If you cannot lime, for the Corn crop, in the autumn, let it be done early in the spring. The harrows mix the lime with the soil, and should be frequently at work. Be not afraid of cutting the Corn roots; they send out fibres from the several parts which more than supply the deficiency occasioned by excision. Sucker your Corn, and do not sow winter grain among it—to the injury of both crops, as well as your land. Of all your crops, Indian Corn will the least bear neglect, and it amply rewards all our attention. It is not only the most valuable, take it with all its advantages, but it is, of all crops generally the most certain. If it fails, some most uncommon seasons of circumstances occur. We call it Corn, without its specific designation, for its pre-eminence. It is the best crop to subdue a stubborn, or clean a foul soil. It forces you to farm well; which counterbalances its exhaustion, in a very important degree.

Indian Corn is truly a great exhauster, however valuable it may otherwise be. It should therefore be only one of a course of crops, and not repeated, but at long intervals. When its turn arrives, it should be used as a *cleaning crop*, for which it is highly estimable, not only for its own, but for the benefit of its successors; which should be small grains and grasses. Whatever may be done in more fertile or new countries, old lands will not admit of frequent and uninterrupted successions of this crop.

Stable and Yard Manure to be ploughed in. *Dung*; remarks on it, and opinions as to the state in which it is most beneficially applied.

V. *Plough in your Barn-yard or Stable manure*. In what state *dung* should be applied, is a disputed question. Some plough it in, at an early stage of putrescence, and some when it is more advanced. The middle course is, perhaps, the best. To scarcity or other tap-roots, fresh *dung* is decidedly hostile. But the adverse opinions on this subject, as to other crops, are too diffuse, to be here inserted. You will find them in books, but the best lessons are to be gained by your own experience. Your well rotted compost, is indubitably best, for top dressings on either grain or grass. Yet fresh *dung*, as a top dressing, has its advocates. It is even believed by many, that using *dung* by itself, is wanton waste: and that it should be considered only as an ingredient, to give value and activity to other materials in composts. Much more apparently improbable revolutions in rural economy, have come to pass. Intelligent farmers hold opposite opinions. See, in *England*, Mr. Gregg's practice, 2d vol. Philadelphia Memoirs, 71, 72; and Col. Taylor's *Arator*. Read Sir H. Davy's Discussion upon this subject, and judge for yourself. See also, in Sir J. Sinclair's *Tour through Flanders*, 1815, an account of the practice of the Swiss Farmers: who soak their *dung* in water,

and apply it in a liquid state, to far greater advantage than crude *dung*.

The nature and qualities of the soils, and the kinds and description of manures have influence, no doubt, on opinions and practice. Climate and seasons have also their operations on manures. The most general opinions and practice, favour the use of *moderately rotted dung*. (a)

Deep ploughing in breaking up. *Sorrel* and *sorrel*ine acid. *Foul* or *wet fallows*. *Chaff-baring crops*, not to succeed one another. *Oats* cut for hay, or sown for pasture. *Oats* and *Indian Corn*, for soiling. *Vetches*. *Heligoland Bean*. *Thistles* ploughed in. *Fences*. *Timber*. *Line Fences*.

VI. *Break up deep*, and be not afraid of turning up barren soil; when the nature of your ground admits of this operation. Shallow ploughing up the *vegetable mould*, deceptively serves a turn, when it is not exhausted; and its exhaustion is the certain consequence of this ill-judged tillage. But the *air* contains the principal store of materials for the food of plants; (b) and will impregnate the substratum, if exposed a due length of time; especially in winter, when it receives much, and parts with little; the heat of the sun being then feeble, and incapable of dispelling what the soil receives from the air.—Those who object to *deep*, much more to *trench* ploughing, want experience sufficiently to test their benefits. They have mismanaged experiments, or have been in too great haste to crop their grounds. The substratum must be exposed, for a time necessary to receive the influences of the atmosphere. Indian Corn, with lime, is by far the best crop, after *trenching*, particularly because it requires the soil to be constantly stirred and exposed. True, there are some soils, which neither *deep* nor *trench* ploughing will benefit; and every Farmer should accommodate his practice to the nature and qualities of his soil. Overcropping and shallow ploughing, with exhausting crops in succession, frequently cause overwhelming growths of *Sorrel*, to infest ill managed fields. *Lime* is the only remedy; and you will see in Lord Dundonald's "Connexion," &c. the good effects of lime which destroys the *sorrel*, and produces the *sorrel*ine acid, highly friendly to wholesome and profitable vegetation. *Green sorrel* grows on fertile soils; but the *red sorrel* is a certain mark of sterility.

Never sow a foul or weedy fallow, to save a ploughing; or a wet one, to save time: nor sow or stubble in, one chaff-bearing crop, immediately to follow another. Such farming may succeed for a time, under particular circumstances; but in the end it will produce only a crop of regret. If you are deficient in mowing grounds, *Oats* may be sown on your fallow, and cut for hay, before ripening the seed; and in such case they do not exhaust; nor does any plant in this stage of its growth. And see Mr. W. Young's paper on the great advantages of Oat-pasture, 2d vol. Philadelphia Memoirs, 186. *Oats* and *Indian Corn* are sometimes sown together, in broad cast; and cut for soiling, or to be ploughed in, as green manure. It is difficult to dry them, for winter provender. *Thistles*, or other succulent plants ploughed in, fertilize wonderfully, when left long enough to ferment, and become putrescent.

If any covering crop, for summer fallows,

which does not exhaust like *Oats*, could be suggested, a great reformation would ensue. *Vetches*, or some such plant might be substituted, if the culture were better understood. The *Heligoland Bean*, very productive, is now esteemed, in *England*, as a cleaning crop, to precede *Wheat*. A spring cover of *Peas*, of a species ripening in time, is very beneficially used to precede *wheat*, in the autumn. If the *pease* fall, and the crop is likely to fail, they may be ploughed in, as excellent green manure.

Keep good *Fences*, and make and repair them, when other business is interrupted. They not only secure your own crops, but ensure the good will of your neighbours, by preventing teasing contests.—Let no weeds, or nurseries for pests, remain near them; and avoid throwing stones, or other obstructions to the scythe on the edges of your fields, or mowing grounds. They prevent cleaning their borders, and afford opportunities of growing, to noxious weeds and other pests; forming, finally, scrubby hedge rows, to disgrace them.

Be avaricious of your *TIMBER*, and fence your wood lands, to protect the young growths. Waste and negligence in this all essential article, soon produce irretrievable want.

LIVE FENCES are becoming more and more indispensable; and those composed of the *Newcastle Thorn* (*crategus crus galli*) will be found the best, for hardihood, durability, constant verdure, and numbers and strength of the thorns. Live fences, as well as orchards, and all fruit trees, demand the earliest attention; and will be growing into profit, whilst other improvements are progressing. If to the ditch and mound placed with stone, which many deem the best, (because it affords immediate protection both to your hedge plants and to your field,) you prefer plain hedging; cultivate strips along your hedge, from year to year, well manured, and plant potatoes, and your thorus will thrive luxuriantly.—In a few continuations of the potato culture, you will gradually reach and invigorate the whole extent of your hedge. Let no person begin a hedge, who will not nurse and foster it, in every stage of its growth.

(To be continued.)

NOTES.

(a) In what particular state, that is, at which point in its process of fermentation and decomposition, manure is applied with the greatest advantage, has occasioned much discussion without having established any general conviction, or settled principles on the subject. The great difficulty in the way of coming to a satisfactory conclusion, lies in this:—That the advocates of "hot muck," and of "well rotted manure," have not previously agreed upon their data: and since men are apt to arrive at different conclusions, even when starting from the same premises, arising from the imperfections of human perceptions: how much more apt are they to differ in their conclusions, when they have not agreed upon their premises. Men turn back to back, and walking each after his own nose, meet face to face at the antipodes; not so in reasoning.—If Agriculturists would settle the question, in what state manure is more effectually applied, they must agree as to the kind of manure, the quality of the soil, the nature of the crop, the

season, &c. &c. For example, the manure of animals that have two stomachs, and chew the cud, as is the case with most animals, that have no front teeth in their upper jaw, such as the cow, sheep, &c. &c. is ejected in a much more advanced state of putrefaction than that of the horse, &c.—Again, sandy land would probably require manure to be applied in a very different state from that which would be suitable for very stiff land;—and again, a small crop, which is of delicate fibre, and of rapid growth, would perhaps be destroyed by an unfermented, hot muck, which would prove very suitable for Indian Corn, Tobacco, &c.—And lastly, this hot muck, applied advantageously to Indian Corn, in a wet season, would probably burn and destroy it in a dry one; so that these disputes about the relative superiority of hot muck, and well rotted manure, are not likely to conduce to the establishment of any settled opinions, until these previous data are agreed upon. The same remarks may be made as to many other contested points in agriculture.

The most heavily manured lot of ground we ever saw, was, some years since, at McCoys, on the Washington road; it ought to have produced 50 or 60 bushels to the acre; it was the manure taken immediately from the stable of stage-horses; the season was dry; the Corn was "burnt up," and the field did not produce half a crop.—It does not follow, as a general principle, that hot muck is not a suitable manure for Corn.

Edit. Amer. Farmer.

(b) What constitutes the chief food of plants, is a point much disputed by gentlemen of science, who have taken great pains to investigate the subject. For a well supported opinion, contrary to the one here expressed, and to the opinion of Col. Taylor, of Virginia, (for it seems that he and Judge Peters agree on this, better than on some other points,) we refer the reader to a learned and able communication from the pen of Dr. Joseph E. Meuse, dated Cambridge, Dorset County, Dec. 1st, 1818, addressed to H. Maynard, Esq. President of the Agricultural Society, at Annapolis, originally published in the Maryland Gazette, and copied in the Maryland Censor, of the 27th Jan. last. That very interesting essay, concludes in these words:—

Edit. Amer. Farmer.

"From the above view of the subject, I conceive myself justified in the conclusion, that Arator's hypothesis is erroneous; that the atmosphere cannot be considered the great matrix of manures in his sense and meaning of the term; that it does not, in its natural constitution, contain most of the principles of vegetation; and that it is not capable, from its texture, of holding extraneous matter sufficient for their 'whole or chief sustenances,' that the earth contains and administers the adapted nutriment; and upon this important truth, the scientific agriculturist must found his hypothesis; and by it, the practical farmer must direct his experiments; otherwise, the phenomena of vegetation daily presented to his view, will be misconstrued: his premises radically false; his deductions will lead him into endless error, and his fancied lights the more fully observe his vision.

I design at a future period, to demonstrate that Arator's false theory has led him into prac-

tical errors, which, with the sanction of their respectable authority, may operate to retard both the science and the art of agriculture."

FROM THE VERMONT REPUBLICAN.

PRUNING FRUIT TREES.

The following remarks, we believe, are from a source which entitles them to the attention of farmers.

Messrs. Ide & Aldrich,

I observed in your present week's paper, a call on farmers, by saying that prudent ones will not let this season of the year pass, without pruning their fruit trees, and stating the good effects it will have, &c. The good effect, of seasonable and proper trimming of fruit trees, is obvious to every person who has paid much attention to the culture of fruit; but from observations I have made for twenty or thirty years past, I am thoroughly convinced that the former method of pruning trees, in March and April, is very injurious to orchards, and particularly to nurseries, which have been long neglected, and require much trimming. I have observed small trees, which have, in consequence of a close trimming in March, died by reason of the drying winds penetrating the wounds so deep, and letting a quantity of the sap and moisture escape before the sap begins to move up and supply the loss.

In this case, the bark adheres to the wood, in such a manner, that it is not in the power of the sap again to ascend; and of course, the sapling dies. But this is not apt to be the case with larger trees, when deprived of those supernumerary branches, which in ordinary cases will require to be taken off: they will nevertheless suffer great damage by such amputations at this season of the year. If a limb of any considerable size is cut several inches from the body, in March, the stump will become dry, and crack open nearly to the body; and before the new growth can heal over the wound, the stump will rot, and this defection will soon penetrate to the heart of the tree, and the whole will soon decay. Whoever will take the trouble to observe old orchards which formerly were trimmed in March, will find, that almost every instance in which a limb of any considerable size had been taken off, instead of the wound being healed, and the tree sound and healthy, a large cavity is found, beginning at the wound, and rapidly increasing towards the heart, which soon deprives the tree of health and vigour. In almost every instance, where I have taken off a limb in June, when the tree is full of sap, if the stump be left smooth, the new growth immediately commences its healing operations, and instead of decaying and dying, the wound is soon healed over, and the tree remains sound and flourishing. I believe the best time in the year for trimming trees, is when they possess the greatest quantity of sap, which I think is not far from the middle of June.

Many farmers do not commence trimming their young orchards so soon by five, and in some cases, by ten years, as they ought. They say the tree grows well and bears well, and why should I meddle with it? The fact is, many of

our orchards are set in good fertile land, and their growth is rapid, and in many instances, send out three or four times as many branches as the root is able to support in old age: and if they are suffered to remain, the tree will soon dwindle, and become shrubby, and die: or, if the branches are taken off when they are large, the tree will be much more injured, than it would have been, had they been taken off smaller.

Woodstock, April 22, 1818.

E. P.

FROM THE PRACTICAL AMERICAN GARDENER.

For the Month of June.

Melons and Cucumbers.

All the melons and cucumbers that have hitherto been under the protection of glasses or paper frames, may now have them removed, and be fully exposed to the open air. Refreshment of water will be necessary occasionally, and particularly to cucumbers.

Keep them entirely free from weeds, and hoe the ground between the plants frequently; draw the earth gently to the stems of all, and lay the vines off in a regular and neat manner; prune luxuriances, by nipping off the runners; lay a shingle under each fruit of the melons.

In the last week of this month, sow general crops of melons and cucumbers for pickling.

Water Melons, Squashes and Pumpkins.

These plants should be thinned now, if not done before, leaving but three of the best in each hill; draw the earth, with a hoc, up to the stems of the plants, as high as the seed leaves; keep the ground loose, and perfectly clear of weeds.

Sweet Potatoes.

Sweet potatoes must have earth drawn around the hills, to encourage the growth of the roots; lay off the vines as regularly as well may be, and keep them free from weeds.

Cauliflowers.

The early cauliflowers will now produce their heads; care must be had to break down the leaves, to preserve the flowers from sun and rain.

Draw the earth round the plants, in the form of a basin, to retain the water, which should be frequently given them plentifully, which will greatly enlarge the size of the flowers; this is absolutely necessary in dry seasons.

The cauliflower plants, from late sowing, should now be planted out finally; if not done in rainy weather, give them water after planting, and lay a large leaf of cabbage, as a shade, over them,

Cabbages and Savoy.

Take the opportunity of moist or cloudy weather, to plant out a full crop of the late spring sowings of cabbages, savoy, and of the red pickling cabbage.

You may now sow seeds of any of the early heading kinds, as the early Smyrna, York, Sugar-loaf, or Battersea, for autumn.

Brussels' Sprouts, Jerusalem Kale, Turnip-Cabbage, and Broccoli.

The early plants, of either of the above kinds, may now be planted out, as directed in May;

the late sown crops should be thinned, and those pulled out, planted in a nursery bed, four inches asunder, giving them a good watering when planted, and afterwards occasionally, until well rooted.

Early in this month, sow some more broccoli seed, for a succession crop, to produce their heads in February.

Celery.

Celery plants may now be planted out in trenches; mark out the trenches by line, ten or twelve inches wide, and allow three feet between trench and trench; dig each trench a moderate spade deep, and spread the earth, dug out, equally on each side of the trench; put about three inches of very rotten dung into the trench, then pare the sides, and dig these with about two inches of the under mould, incorporating all together; then put in the plants, in the middle of the trench, in single rows, about six inches asunder; trim them before planting. When completed, give them a plentiful watering, and shade them, by placing sticks across the trenches, and over these put pine boards, until they strike root, and begin to grow, when the boards are to be taken off.

When the plants are grown to the height of eight or nine inches, they should have their first landing; this must be done by pulverizing the earth, and laying it gently around their sides, leaving the hearts and tops free; repeating it every few days, until they are blanched of a sufficient height.

Peas.

A few peas may still be sown, and if the season prove moist, they may produce.

Asparagus.

The asparagus now running up to seed, should be cleared of weeds; also the seedling plants.

Transplanting Lettuce.

Manure and dig the ground well, then draw from the seed-beds the strongest plants, trim the roots, and cut off the tops of the leaves; plant them in rows a foot asunder, and six inches apart from plant, in the rows; insert their shanks into the earth up to their leaves.

Lettuces.

Sow and transplant lettuces. Let this be done in moist weather, or else water them plentifully.

Small Saladings.

Continue to sow cresses and other small saladings, once a week. Water them often in dry weather.

Kidney-Beans.

Sow successive crops of kidney-beans, in the beginning, middle, and latter end of this month. Land up the kidney-beans sown last month.

Carolina and Lima Beans.

Hoe and clean the ground between these beans; see that all are properly supported with sticks.

Radishes.

A few of the salmon and short top purple radishes may be sown; also some of the white and red turnip-rooted kinds. Towards the middle or end of the month, sow a good crop of the white and black winter radish, to draw early in autumn.

Carrots, Parsnips, and Onions.

The crops of carrots, parsnips, and onions, must now be kept clean of weeds, and if the onions incline more to tops than roots, lay the tops down

Beets.

The crops of beets should be kept very clean from weeds, and the plants thinned to eight or nine inches apart from plant, if not done before.

Endive.

Transplant endive that is now of a sufficient size. Sow another crop of curled endive, about the middle and latter end of the month.

Okra, Tomatoes, Egg-Plant.

Earth up the crops of okra; where too thick, thin them. Keep the ground clean from weeds.

In the early part of this month, plant out tomatoes and egg-plants.

Capsicums.

In the early part of this month, plant out full crops of the capsicums from the seed-beds.

Cardoons.

Plant out cardoons in a bed of rich earth, at the distance of four feet, every way, from one another; one good plant is sufficient in a place, as they rise to the height of 3 or 4 feet, and require a considerable quantity of earth to blanch them.

Plant Pot-Herbs, &c.

Plant out from the seed-beds, for edgings of the borders, or in beds, plants of thyme, hyssop, sage, sweet margoram, winter savory, &c. &c. Let this be done if possible, in moist and cloudy weather.

Gathering Herbs.

All kinds of herbs, such as mint, balm, clary, lavender, sage, rosemary, &c. that are gathered for drying, or for distillation, should be cut off when just beginning to come into full flower, and laid in the shade to dry gradually.

To destroy Weeds.

As the sun, at this season of the year, is powerful, give the ground a complete hoeing, where it can be done; the weed will more easily be destroyed, and by stirring the earth around the plants, particularly after a shower of rain, it will refresh them.

If the introduction of the sugar-cane, into Italy (in rivalry of efforts making in France) is successful, the Italians will boastingly say to the French, "Your sugar is beet."

Agricultural Communications.

TO THE EDITOR,

Dated—Hagerstown, May 17, 1819.

Sir,

I have met with two or three numbers of the *Farmer* at our Reading-Room, and am desirous of appropriating to myself a work of so much general utility. I wish to be considered a subscriber, as from the commencement of the work, and will be glad to receive all the numbers.

How comes it, that in a county more distinguished than the most of its sisters for skill and attention, in and to husbandry, your subscription list has not been seen? I am of opinion, that an active agent might obtain for your paper, handsome encouragement here: it is very generally, among all whom I see, highly spoken of.

At present, though we make excellent crops, every son treads in his father's precise footsteps, and our whole system of agriculture depends on the phases of the moon, and the signs of the zodiac, as marked in the large Dutch Almanac.

We plant, we sow, we reap and mow; we fell trees, we make shingles, we roof our houses, secure bacon, make fences, spread manure, when the moon is auspicious. If we are ready before her ladyship, we wait the happy moment when her aspect shall say, proceed. Dr. Crawford's system of unruly vermiculi in the blood, led him to the same course of practice, as was pursued by those who damned his animalcule and ascribed fever to other causes: so our *Lunacy* leads to results as happy as those which flow from the theories of our neighbours.

I am willing to render to Cæsar the things which are Cæsar's; to the moon the moon's—but I confess, I should like to see her power somewhat circumscribed, and the limits of her reign ascertained. I have always ascribed great influence to the genial sun, but I assure you it is all moonshine, here.

NOTE.

A thought has occurred to us, which we may some day put in execution—to give extracts from the numerous letters we receive from all parts of the United States. They would indicate the estimation in which agriculture is held; its present state, and the temper and habits of the people in regard to it, in various parts and climates of our country. The foregoing is so full of wit and satirical observation on the prejudices of the people in the wealthiest and most improved part of the state, that we cannot help throwing it into our paper. We have felt particularly anxious to enlist in our cause, the services of gentlemen of experience in Washington and Frederick Counties. These have the reputation of being the most fertile and best cultivated portions of the state. The means by which this enviable condition and honourable reputation has been acquired—the systems pursued, if described in detail, could not fail to promote, essentially, the improvement of the lower counties; we hope our friends there, will not "hide their lights;"—for example, we should be glad to have an extract from the Register of the produce of some of the Washington County Farmers. Verbal statements have been often made, which the lower county Farmers refuse to credit, perhaps because they reflect on their own bad and slovenly management. If some young farmers, in the lower part of the state, who live below the great mail road line, running east and west, and see but little of the world—if, we say, they could summon up the courage to cross that line in June or July, and make a short tour through Washington, Frederick, and some portions of Pennsylvania, it would pay them ten times over the expense, by the certain improvement of all their husbandry practices, and of course, be an increase in the value and productiveness of their land and their labour for the balance of their lives; but if this would involve too violent a departure from their old jog-trot habits, we would advise them, to purchase by subscription, a small farm in every ten miles square, (about the usual extent of their observation) and then procure some Pennsylvania, or Frederick County Farmers to take possession, in fee simple, of these central farms. They would soon find, if they would learn, on any terms, that the enhancement in the value of their own lands, by its increased fertility, would pay them a good

interest on the stock invested in the pattern farm. Should this plan be adopted, the Editor of the *American Farmer* will advertise gratuitously for what we might call a farming schoolmaster; and he has little doubt that some of the farmers in Chester County, worth their \$100,000, who drive their wagons to market, might be induced to spare one of their sons from the plough, to go down and give lessons on the art of making manure, clover, butter and money, and abundance and good health.

A gentleman mentioned to us the other day, an occurrence to convey an idea of the habits and condition of a certain neighbourhood—he said he met on the road, going to a neighbouring village, an old fashioned, imported coach, drawn by two half starved horses, driven by a naked negro slave, conveying a live hog, to buy a jug of rum!

What a picture was there of a aristocracy, poverty, laziness, bad management, love of luxury, ruins of fallen grandeur, &c. &c. &c.!!!

Ed. Farmer.

FOR THE AMERICAN FARMER.

MR. EDITOR,

In compliance with your urgent request, I proceed to state the substance of my remarks, in conversation with you, concerning the effect of certain kinds of feed on the constitutions of the hog and the cow.

And, first of the hog: I have observed that the common pot liquor, from the boiling of pork or bacon, to be injurious to confined hogs, and of no benefit (if not an injury) to those running at large. In my opinion, it produces a disposition to mange. I think that the large hogs, fed in Boston, by Mr. Patterson, with kitchen swill, must have had but little pork in its composition.

And next of the cow. I was informed, by an old gentleman who practised the veterinary art in Baltimore, for several years before his death, that he believed that most of the complaints of the cows in Baltimore, originated from feeding on slops, composed in part of the boilings of beef and pork. I bought some Baltimore cows one fall, and found them much weaker and more difficult to winter, for their appearance, than any I ever fed; and it is my opinion, that this disposition was produced by feeding on such slops as I have above described. And I am of the opinion, that it is contrary to nature, and injurious to the health and constitution of any animal to feed on its own kind. The best feed I have ever given to hogs is milk; and it is, at the same time, the worst for dogs. Rich pot liquor will fatten dogs, and kill hogs. If these observations are considered worthy a place in your paper, you may insert them.

A ROUGH FARMER.

St. Domingo Farm, May 21, 1819.

NOTE.—The facts and reasoning of our esteemed correspondent, would seem to be confirmed by the known aversion of carnivorous birds, and beasts of prey, to feeding on their own kind. Naturalists tell us, that birds which feed on carrion, are most fond of dead animals which bear the nearest resemblance in character and pro-

pensities to themselves; but they refuse to draw subsistence from the inanimate remains of their own kind. The buzzard will feed on the dead hog; the dog on the carcass of the dead horse; but buzzard will not eat buzzard, nor will dog eat dog. Every thing in life has its enemies, and its victims; but it would appear to be incompatible with the standing ordinances of nature, that any order of animated beings should derive the means of life, and prosper by the consumption of its own kind: in a word, that it should be interested in the destruction of its own species, implies a contradiction in the order of things.

In the human family we know, that nothing is more injurious to health, or more offensive to the sense, than the effluvia which escapes from the body of our own kind; hence arises, in a great degree, the unhealthiness of jails, birth-decks, &c. &c. Nothing, it is said, is more disgusting than such places when not well ventilated; and it is, we believe, the settled opinion of medical men, that man would live longer in *close confinement* with any other animal, than with man. *Consumptive patients* have, for their benefit, been lodged in *stables*; and their presence has been thought to be hurtful to their own family, confined and too closely lodged in the same room.

There is no doubt, that horses are often diseased, by being kept too much crowded in stables, not well aired. We make these hasty remarks on the letter of our correspondent, to show the reasonableness of the facts; of the truth of his own assertions, we have no more doubt, than we should of our own experience. The common opinion is, that pot liquor is very wholesome and fattening to hogs; and so it may be, because a very great proportion of it is the liquor of *other* than hog meat; and because, as is known to be the case, it is made into a swill, which contains many other nutritious ingredients. But let those who would make the experiment, and it is well worthy of being made, let them give a hog for a short time, the liquor of hog meat only, or to a cow, beef soup, of which much is given to them in towns, and we question if it would not be very soon discovered, that the effects would be such as the "rough," but very intelligent and observing farmer, has described.

Ed. Farmer.



The Velocipede, or Swift Walker.

We furnish our readers with a representation of the Velocipede and a particular description of it, taken from the *London Observer*, which is the best we have met with.

This truly original machine was the invention

of Baron Charles De Drais, master of the woods and forests of H. R. H. the Grand Duke of Baden. The account given of it by the inventor, of its nature, and properties—is,

1. That on the well maintained post-road, it will travel up hill, as fast as an active man can walk.

2. On a plain, even after a heavy rain, it will go six or seven miles an hour, which is as swift as a courier.

When roads are dry and firm, it runs on a plain at the rate of eight or nine miles an hour, which is equal to a horse's gallop.

4. On a descent, it equals a horse at full speed.

Its theory is founded on the application of a wheel to the action of a man in walking.

With respect to the economy of power, this invention may be compared to that very ancient one of carriages. As a horse draws, in a well constructed carriage, both the carriage and its load much easier than he could carry the load alone on his back; so a man conducts, by means of the Velocipede, his body easier than if he had its whole weight to support on his feet. It is equally incontestible, that the Velocipede, as it makes but one impression, or rut, may always be directed in the best part of a road. On a hard road, the rapidity of the Velocipede resembles that of an expert skater; as the principles of the two motions are the same. In truth, it runs a considerable distance while the rider is inactive, and with the same rapidity as when his feet are in motion; and in a descent, it will beat the best horses in a great distance, without being exposed to the risks incidental to them, as it is guided by the mere gradual motion of the fingers, and may be instantly stopped by the feet.

It consists of two wheels, one behind the other, connected by a perch, on which a saddle is placed, for the seat of the traveller. The front wheel is made to turn on a pivot, and is guided in the same manner as a bath chair.—On a cushion in front, the fore-arm is rested; and by this means, the instrument and the traveller are kept in equilibrium.

Its Management.

The traveller having placed himself in the position represented in the cut, his elbows extended, and his body inclined a little forwards must place his arms on the cushion, and preserve his equilibrium by pressing lightly on that side which appears to be rising. The rudder (if it may be so called) must be held by both hands, which are not to rest on the cushion, that they may be at full liberty, as they are essential to the conduct of the machine, as the arms are to the maintenance of the balance of it (attention will soon produce sufficient dexterity for this purpose) then placing the feet lightly on the ground, long but very slow steps are to be taken, in a right line, at first; taking care to avoid turning the toes out, lest the heel should come in contact with the hind wheel. It is only after having acquired dexterity in the equilibrium and direction of the Velocipede, that the attempt to increase the motion of the feet, or to keep them elevated while it is in rapid motion ought to be made.

The saddle may be raised or lowered, as well as the cushion, at pleasure; thus suited to the height of various persons.

A new invented hobby-horse has been put into

operation in England. The road from Ipswich to Whitton is travelled every evening by three pedestrian hobby-horses; and the distance, which is three miles, is performed in fifteen minutes.

FROM THE PHILADELPHIA UNION.

Important to Stone Masons.

Mortar.—It is well known, that mortar is composed of quick lime and sand, reduced to a paste by water. When dry it becomes as hard as stone, and as durable; and adhering with great tenacity to the surfaces of the stones which it is employed to cement, a whole wall becomes nothing else than one solid stone. But this effect is produced very imperfectly, unless the mortar is skilfully prepared: a circumstance too little understood, or too little attended to by those who generally have charge of the preparation. The following directions may be useful to mechanics who work in mortar.

"The lime should be pure, perfectly free from carbonic acid, and in the state of a very fine powder; the sand should be free from clay, and partly in the state of fine sand, partly in that of gravel; the water should be pure, and if previously saturated with lime, so much the better. The best proportions, according to the experience of Dr. Higgins, are three parts of fine sand, four parts of coarse sand, one part of quick lime, recently slacked, and as little water as possible.

The stony consistence, which mortar acquires, is owing partly to the absorption of carbonic acid, but principally to the combination of part of the water with the lime; this last circumstance explains the reason why. If to common mortar, one fourth part of lime, reduced to powder, without being slacked, is added, the mortar, when dry, acquires much greater solidity than it otherwise would. This was first proposed by Lorient; and a number of experiments were afterwards made by Movern. The proportions which this philosopher found to answer best, are the following:—

Fine sand, - - - -	0,3
Cement of well baked bricks, -	0,3
Slack lime, - - - -	0,2
Unslacked lime, - - - -	0,2

10

The same advantages may be obtained by using as little water as possible in slacking the lime.

Higgins found, that the addition of burnt bones improved mortar, by giving it tenacity, and rendering it less apt to crack in drying; but they ought never to exceed one fourth part of the lime employed.

When a little manganese is added to mortar, it acquires the important property of hardening under water, so that it may be employed in constructing those edifices which are constantly exposed to the action of water. Lime-stone is often combined with manganese; in that case, it becomes brown by calcination."—*Thomson's Chemistry.*

Derivation of the word "Corset."

Some twenty years ago, a fat English lady, having visited Paris, obtained from a milliner a certain article of dress, much in vogue among belles and feminine beaux. On her return, all the fat ladies were smitten with envy, to see her

shape elegantly improved into that of an hour-glass. She lost no time in exhibiting her exquisite person at a ball; but in the middle of the waltz, swooned away. Her clothes were soon unlaced, and the cause of her fainting discovered. "O la!" exclaimed a dozen of her female friends, "what is that you wear?" "O curse it!" replied she, and immediately hurried out of the room. The words of the lady, she being of fashionables the most fashionable, were decisive. Curses, or, as they are now termed, *corsets*, became the order of the day; and although many a simple girl has since had occasion to give them their original appellation, they still appear to stand their ground.

How to make Starch.

To make starch from wheat, the grain is steeped in cold water until it becomes soft, and yields a milky juice by pressure; it is then put into sacks of linen, and pressed in a vat filled with cold water; as long as any milky juice exudes, the pressure is continued; the fluid gradually becomes clear, and a white powder subsides, which is starch.—*Davy's Elements of Agricultural Chemistry.*

To purify Rancid Butter.

Melt it with a slow fire, in a well glazed earthen vessel, to which put soft water, working them well together; and when it is cold, take away the curd and the whey at the bottom: do it a second and a third time in rose water, always working them very well together. The butter, thus clarified, will be of the sweetest delicious taste.

The president of the Berkshire Agricultural Society, has published the following letter, addressed to him by general John Armstrong, on the subject of the Canadian thistle:

Red Hook, April, 27, 1819.

Sir,

Finding, by a publication, under your signature, as president of the Agricultural Society of Berkshire, that it is a desideratum with that body to discover "the means of extirpating the Canada thistle in an economical way, practicable to farmers in general," I have thought it would not be improper to give you the result of my experience on that head—without, however, wishing to be considered a candidate for your premium.

Three years ago, a labourer pointed out to me a piece of ground on my farm, covered with the Canada thistle. He was unable to suggest any means of killing it, but remarked, that it might be kept from spreading, by heaping and burning upon it buck-wheat or other straw. As this method was but a palliative, I pursued another, and this was, to pour slowly upon it the fish, beef and perk pickle of my winter provisions. In a few days, there was not an appearance of vegetation of any kind on the earth to which the pickle had been applied, and from that day to this, the thistles have not re-appeared.

While thinking on this subject, I had determined (had the pickle failed) to try apple pumace, spread thinly over the thistles—knowing that malic acid would destroy the most vigorous, tap-rooted plants.

I am, sir, very respectfully, your obedient, humble servant,

JOHN ARMSTRONG.

Thomas Melville, Jr. Esq.

Dr. Franklin's plan for studying languages; hints on this subject.—His entrance into public life—first turn of his thoughts on public affairs.—His account of the arrival, character, and preaching of the celebrated Mr. Whitefield.

"In the conduct of my newspaper, I carefully excluded all libelling and personal abuse, which is of late years become so disgraceful to our country.—Whenever I was solicited to insert any thing of that kind, and the writers pleaded (as they generally did) the liberty of the press; and that a newspaper was like a stage-coach, in which any one who would pay had a right to a place; my answer was, that I would print the piece separately, if desired, and the author might have as many copies as he pleased, to distribute himself; but that I would not take upon me to spread his detraction; and that having contracted with my subscribers to furnish them with what might be either useful or entertaining, I could not fill their papers with private altercations in which they had no concern, without doing them manifest injustice.—Now, many of our printers make no scruple in gratifying the malice of individuals, by false accusations of the fairest characters among ourselves, augmenting animosity even to the producing of duels; and are moreover so indiscreet as to print scurrilous reflections on the government of neighbouring states, and even on the conduct of our best national allies, which may be attended with the most pernicious consequences. These things I mention as a caution to young printers, and that they be encouraged not to pollute the presses, and disgrace their profession by such infamous practices, but refuse steadily, as they may see, by my example; that such a course of conduct will not on the whole, be injurious to their interests."

"I had begun in 1733 to study languages; I soon made myself so much a master of the French, as to be able to read the books of that language with ease; I then undertook the Italian: an acquaintance, who was also learning it, used often to tempt me to play chess with him: finding this took up too much of the time I had to spare for study, I at length refused to play any more, unless on this condition, that the victor in every game should have a right to impose a task, either of parts of grammar, to be got by heart, or in translations, &c. which tasks the vanquished was to perform upon honour before our next meeting, as we played pretty equally, we thus beat one another into that language. I afterwards, with a little pains-taking, acquired as much of the Spanish as to read their books also. I have already mentioned that I had only one year's instruction in a Latin school, and that when very young, after which I neglected that language entirely. But when I had attained an acquaintance with the French, Italian, and Spanish, I was surprised to find, on looking over a Latin Testament, that I understood more of that language than I had imagined; which encouraged me to apply myself again to the study of it, and I met with the more success, as those preceding languages had greatly smoothed my way. From

these circumstances, I have thought there was some inconsistency in our common mode of teaching languages. We are told that it is proper to begin first with the Latin, and having acquired that, it will be more easy to attain those modern languages which are derived from it: and yet we do not begin with the Greek, in order more easily to acquire the Latin. It is true, that if we can clamber and get to the top of a staircase, without using the steps, we shall more easily gain them in descending; but certainly, if we begin with the lowest, we shall with more ease ascend to the top; and I would therefore offer it to the consideration of those who superintend the education of our youth, whether, since many of those who begin with the Latin, quit the same, after spending some years without having made any great proficiency, and what they have learned, becomes almost useless, so that their time has been lost—it would not have been better to have begun with the French, proceeding to the Italian, and Latin. For though, after spending the same time they should quit the study of languages, and never arrive at the Latin, they would, however, have acquired another tongue or two, that being in modern use, might be serviceable to them in common life.

"My first promotion was, my being chosen, in 1736, clerk of the general assembly. The choice was made that year without opposition, but the year following, when I was again proposed; (the choice like that of the members being annual) a new member made a long speech against me, in order to favour some other candidate. I was, however, chosen, which was the more agreeable to me, as besides the pay for the immediate service of clerk, the place gave me an opportunity of keeping up an interest among the members, which secured to me the business of printing the votes, laws, paper-money, and other occasional jobs for the public, that on the whole were very profitable. I therefore did not like the opposition of this new member, who was a gentleman of fortune and education, with talents that were likely to give him in time great influence in the house, which indeed afterwards happened. I did not, however, aim at gaining his favour by paying any servile respect to him, but after some time, took this other method: having heard that he had in his library, a certain very scarce and curious book, I wrote a note to him, expressing my desire of perusing that book, and requesting that he would do me the favour of lending it to me for a few days. He lent it immediately; and I returned it in a week, with another note, expressing strongly my sense of the favour. When we next met in the house, he spoke to me, (which he had never done before) and with great civility; and he ever afterwards manifested a readiness to serve me on all occasions, so that we became great friends, and our friendship continued until death. This is another instance of the truth of an old maxim I had learned, which says, "*He that has once done you kindness, will be more ready to do you another, than he whom you yourself have obliged.*" And shows how much more profitable it is promptly to remove, than to resent, return, and continue inimical proceedings."

I began now to turn my thoughts to public affairs, beginning however with small matters.

The city watch was one of the first things that I conceived to want regulation. It was managed by the constables of the respective wards in turn; the constable summoned a number of housekeepers to attend him for the night. Those who chose never to attend, paid him six shillings a year to be excused, which was supposed to go to hiring substitutes, but was in reality, much more than was necessary for that purpose, and made the constableness a place of profit; and the constable, for a little drink, often got such ragamuffins about him as a watch, that respectable housekeepers did not choose to mix with. Walking the rounds too was often neglected, and most of the nights spent in tippling: I thereupon wrote a paper, to be read in Junto, representing their irregularities, but insisting, more particularly, on the six-shilling tax of the constables, respecting the circumstances of those who paid it, since a poor widow housekeeper, all whose property to be guarded by the watch, did not exceed the value of fifty pounds, paid as much as the wealthiest merchant, who had thousands of pounds worth of goods in his stores. On the whole, I proposed, as a more effectual watch, the hiring of proper men to serve constantly in the business; and as a more equitable way of supporting the charge, the levying a tax that should be proportioned to the property. This idea being approved by the Junto, was communicated to the other clubs; but as originating in each of them, and though the plan was not immediately carried into execution, yet by preparing the minds of people for the change, it paved the way for the law a few years after, when the members of our clubs were grown into more influence.

About this time I wrote a paper, (first to be read in the Junto, but it was afterwards published) on the different accidents and carelessnesses by which houses were set on fire, with cautions against them, and means proposed of avoiding them. This was spoken of as a useful piece, and gave rise to a project, which soon followed, of forming a company for the more ready extinguishing of fires, and mutual assistance in removing and securing of goods when in danger. Associates in this scheme were presently found, amounting to thirty. Our articles of agreement obliged every man to keep always in good order, and fit for use, a certain number of leathern buckets, with strong bags and baskets, (for packing and transporting of goods) which were to be brought to every fire; and we agreed about once a month to spend a social evening together, in discoursing and communicating such ideas as occurred to us upon the subject of fires, as might be useful in our conduct upon such occasions. The utility of this institution soon appeared, and many more desiring to be admitted than we thought to be convenient for one company, they were advised to form another, which was accordingly done; and thus went on one new company after another, until they became so numerous as to include most of the inhabitants who were men of property; and now at the time of my writing this, (though upwards of fifty years since its establishment,) that which I first formed, called the UNION FIRE COMPANY, still subsists; though the first members are all deceased but one, who is older by a year than I am. The fines that have been paid by members for absence at the monthly meetings, have been applied to the purchase

of fire engines, ladders, fire-hooks, & other useful implements for each company; so that I question whether there is a city in the world better provided with the means of putting a stop to beginning conflagrations; and in fact, since these institutions, the city has never lost by fire more than one or two houses at a time, and the flames have often been extinguished before the house in which they began, has been half consumed.

[The account of Mr. Whitefield in our next.]

BALTIMORE:

FRIDAY, MAY 28, 1819.

A correspondent suggests, that we were grossly misinformed as to the effect of shade and sun on the fly, in tobacco beds, and we incline to think we were; though the suggestion was made by a gentleman of much experience and undoubted integrity; he was of opinion, that the fly delighted and prospered in the sun, and that shade would kill or drive it away. Now, it is a well known fact, that they thrive best, and are most destructive, in dry, windy weather. We often see that hints thrown out in season, lead to valuable discoveries: so will it be, we believe, with what has been said of SASSAFRAS wood; several intimations addressed to us since, in letters, and in the course of conversation with gentlemen from different quarters, fully convince us, that the original suggestion as to its efficacy in killing, or expelling chicken lice, simple as it seemed in itself, will lead to practical results in husbandry, at which the whole agricultural community may have reason to bless the "*Spinner*," who stated the question. Since we threw out the suggestion, that, by a proper use of this discovery, the fly might be destroyed in tobacco beds, we have been informed, that branches of the sassafras tree thrown over the bed, will destroy them. It is an ascertained fact, that the dry bark of sassafras, pounded and sprinkled in the hair of any lousy animal, whether biped or quadruped, will cause the lice to disappear immediately after the first rain. Chips, or the bark of it thrown into the beds of hogs, will have the same effect.

The circumstance which originally led to the discovery that it would drive away, or destroy chicken lice, was from its being observed that a bedstead was never infested by them, which was made of that wood.

We are inclined to think the most effectual application of it, is, in a state of decoction. A respectable planter, in Calvert county, effectually destroyed the fly, since we made the publication, by brimstone and sassafras, but knows not to which to ascribe it; all are easily applied, and this flea skipping fly is as great a barrier to the raising a supply of plants, as the *Hessian fly* is to making a crop of wheat.

On the 11th inst. a violent hail storm visited the county of Wilkes, (Geo.) that entirely destroyed the cotton, so that it will have to be replanted. The corn is beaten to the earth, and it is feared will never come out.

In Jasper county, the hail was severe; so much so that the crops of most persons are more or less injured.

FOR THE AMERICAN FARMER.

THE COUNTRY TO THE CITY.

SISTER,

FOR you are our bone and our flesh, and the most affectionate address and brotherly feeling becomes us in corresponding with you. We know the industry, enterprise, private probity, and public spirit which animate your sons generally. We glory in these, and rejoice in your prosperity. We, indeed, share largely in your success; your honour is reflected upon us, and willingly do we contribute from our labours, as the bounty of Providence drops down upon our fields, receiving again in the social intercourse, from your overflowing stores, measure for measure. But in the midst of this mutual interchange of benefits, there is something wanting in particular offices, for which we have a little against you. We justify and approve the regulations by which you restrain or correct the rude, boorish, or injurious conduct of our disorderly wagoners, drivers, or knavish market-men, in your streets and public places. Such will, at times, go from us, and display their brutish or covetous tempers, which we hope will meet with lawful discipline to the reformation of such bad manners, at home or abroad. But we must freely tell you, that there are a number of very ill bred persons in your family, with all the civility and politeness that is the boast of cities, and in as much in yours, as in any other, be it where it may. These are not only wild unruly boys, who from the vicious carelessness of parents and masters, are untaught of that modest and inoffensive behaviour so lovely in youth, and becoming to every age, but full grown men, in fashionable garb, as well as labouring dresses, who issue from your avenues, and come prowling into all the roads that border our fields and gardens. We should be pleased to see your sons and daughters come out to breathe the scented air in spring, or enjoy the varieties of the following seasons. It would give us pleasure to hand them the refreshments of our fountains or milk-houses; their appearance would enliven our solitude, and captivate our attention. But, alas! instead of agreeable visitors, to be welcomed, like the birds of spring, and give animation by their sight and voices, they appear like creatures of prey, ready to seize upon and devour, by force or stealth, whatever "tempts their wandering eyes." Gardens are despoiled of their flowers—orchards of their fruits: noise and profanity break the peace of the fields—the sacredness of the sabbath, and add a diabolical annoyance to injury. It is true, that all these foul circumstances do not attend every trespasser on our premises. Some of them confine themselves to entering the fields and picking, as if it were their own, a little fruit, or something else, which they estimate of little value, and therefore persuade themselves there is no harm done. But give us leave to tell you, that they must reckon with the owners on these matters, and cannot so easily make out an account by themselves. Let us see how the reckoning stands in truth, when we come together.

In the first place, no one has a right to enter another's enclosure: this is both law and reason; for if he may at his pleasure, the rights of others are gone, and the intruder is lord and master: a doctrine which we will deny, as freedom in word and deed.

Suppose one of our sons, or servants, should go into your house-yard, and with only the same freedom you take on our grounds, walk about and stare at whatever amuses him. You would think, and probably call him a fool or a knave, and bid the impudent country booby clear the premises.

Do you expect any other thoughts or language from us when you come over our fences?

But, secondly, it would be hardly doing you justice, to suppose you always so innocent. It is not only that you give us your company unasked, to the disturbance of our surprised families; but you commonly make us pay for these unbidden visits, by helping yourselves to apples, peaches, cherries, &c. nay, taking part of the very trees with you, breaking the boughs for your convenience to carry the stolen fruit, and thus making us pay double.

Perhaps you may complain, that we say these things are stolen. You gentlemen, who are the performers in this way, are indeed so modest as to take it ill when they are caught in the fact to be called thieves. They only take a little. But as this, though a genteeler sound, is

quite the same to the losers; it must be allowed to them, when a little hurried, as they are apt to be on such occasions, to call these takers, thieves and robbers. If the gentlemen are offended, they must change their manners, and then they will be treated with better names, as well as come off better in their persons, when they meet with farmers and gardeners, too angry to understand the difference.

Perhaps your people will understand this better themselves, if they suppose a countryman to come into their stores, where goods are as plenty as apples at home, and to take for himself a few pins, needles, ribbands; or raisins, nuts and sugar-plums,—these fruits of the town, which so temptingly stand out from the sides and windows of your shops.

You may answer, these cost you a great deal of money, and they are not to be taken, but are offered to the country for their money. But the fruits of the country are dropped from heaven, and may be taken "without money and without price."

Dear Sister! you are well read in the scriptures, and must be allowed to have "shown your faith by your works." But though many of your beautiful sons and daughters, like the lilies of the field, "neither toil nor spin," there is a little mistake in the fact and doctrine, to which you would do well to attend.

When heaven spread its manna round the tents of the people, who, obeying its commands, trusted their thousands to the lifeless desert, though some gathered much, and others little, what each gathered was his own, and no one was licensed to pilfer of the common bounty from the heap of another.

The same hand has poured largely on the American wilderness, and there is enough for all. Gather you what you can, and heaven increase it; but pick not away from our gatherings.

But, farther, our lands cost money, too; and not a little. Every tree and bush is dearly planted, a price is paid at first—the digging and planting cost many days; the ground they stand on pays rent and tax continually. Every orchard before it yields its fruit pays many years' interest. The space covered by a tree within a mile or two of your city, is worth a considerable sum. Then after we have bought a plant—transported it a hundred or a thousand miles—dug and set it—given it ground—tended it for a dozen years; as soon as it begins to show its fruit, and the patient cultivator promises himself to at thereof and give to his children, a rapacious gang, regardless of all right, of all pity, issue from your crowded streets, and tear away the expected blessings, even before the eyes of the disappointed family. Think you this is little? Would you count it so, if done to yourselves? But the evil does not end here. If the robber is strong enough to defy the sufferer, the latter endures the aggravation of insult and mockery, which blackguard wickedness is ready to pour out when detected. If not, he sometimes pays in his person, a heavy price for the ill gotten pennyworth.

But at length the mischief recoils upon the town, in a more silent and certain manner, where the good and bad suffer together. The fruit grounds are contracted, or charged to different productions. The trees are often cut down by the hand that raised them, to take away the occasions of vexation. You receive less in your markets, coming farther, it is worse when received, and you pay more for it. The country is put to greater expense for stronger enclosures, and your more innocent members are excluded, by walls and high fences, from even the sight of the greens and blossoms which others are so prone to violate, in their walks for health and pleasure.

But besides the thieves, small or great, we must complain of another species of transgressors. A number of offensive idlers sally out with guns, to the great annoyance of our children and servants, in their sports and labours.

The noise and the shot enter our very houses; discharged, by unmanly sportsmen, upon the blue bird, thrush, and robin; any bird of song or beauty that falls under the savage glance of these ignoble hunters. Thus, under the average glance of every murdered bird leaves a helpless brood to perish with famine in the nest. Scarcely while the swallow, or a sparrow, can escape, and in a little while, nothing will be left to animate the country near your precincts. But, instead of these beautiful and sprightly little visitors, disgusting crowds of caterpillars and destructive grubs, will deform and desolate the country, in righteous judgment for the wanton destruc-

tion of the useful creatures, who formerly kept down their devouring numbers.

While thus, unamiable and pernicious as the vermin on our fields, can you be welcome there? Reform your ways! Teach your sons, that, taking little or much from others, is thieving. Fill them with scorn of the dirty action. If they are not worth a few cents, to buy at market, "ask and it shall be given;" knock and our gates will be open to you. But, if you will come over our walls, expect the reception of thieves from your offended relative.

MISCELLANY.

SELECTIONS.

ORIGIN OF RIVERS.

A question has long existed among philosophers, and has never been settled by universal consent, whether the rivers depend solely, for their supply, upon the water which descends from the atmosphere, or whether there is a kind of circulation of water within the earth, like that of the blood in the animal economy, or that of the winds of the atmosphere, by means of which, perennial springs are constantly supplied, by some mechanical process in nature, from 'the fountains of the great deep.' Riccioli affirms upon calculation, that the Volga, or the St. Lawrence, alone, discharges annually, a greater quantity of water than falls in rain, snow, and dew, upon the whole surface of the globe. These and other known rivers are said, upon a very moderate calculation, to discharge more than five hundred times as much water into the sea, as falls in rains; &c.—It would seem therefore, that there must subsist subterraneous communications between the sea and the sources of fountains, rivers, and larger springs, by which these are supplied; and this opinion is corroborated by the known existence of Charbydes, which swallow the sea; if these happen to be stopped, the largest rivers have been said to be dried up, and wholly ceased to run for a considerable time. It is stated in Rees' Cyclopaedia, that there are accounts in history, of this having happened to the Thames, the Medway, and the Trent, in England; the Elbe, the Motala, and Gulspar, in Sweden, and other rivers in other countries. On the contrary, if these Charbydes happen to be too open, fresh water springs depending upon them become salt. Pliny relates, that this once happened in Caria, near Neptune's Temple. Various other instances have been stated by historians, ancient and modern.

INTERNAL IMPROVEMENTS.

The Hanoverians and Prussians have agreed to make the river Ems navigable within three years, for ships of 300 tons. By a communication which the latter have determined to make with the river Lapse, there will be a water communication from the north of Germany with the Rhine from Embden to Wesel. The expense is calculated at 1500,000 sterling. Perhaps Embden may thus rise at the expense of Bremen. A communication of the Elbe and the Rhine, by means of canals, would, perhaps, be the greatest possible improvement to the trade of Germany; but it is not to be expected till public spirit shall pervade the disunited provinces of the confederation. A canal is in contemplation between the Baltic and the Elbe; but the way of executing it is not agreed upon.—Lubeck would be ruined by the loss of the Russian trade, if the projected canal did not pass by it, as it easily might, by means of the river Stoxnedx, which plan has already been begun under the French Usurpation. Denmark wishes to lead it through Holstein; Mecklenburgh wants it to go through its own territory from Wismar, to some little town on the banks of the Elbe.

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FOR

JOHN S. SKINNER,

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PAYABLE IN ADVANCE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, JUNE 4, 1849.

NUM 10.

AGRICULTURE.

From the Memoirs of the Philadelphia Agricultural Society.

Notices for a Young Farmer,

Particularly on Worn Lands, &c. &c.

WITH NOTES BY THE EDITOR OF THE FARMER.

[Continued from No. 9, page 66]

Change of crops recommended. Harrowing winter grain, in the spring. Plants should be accommodated to the soil, rather than the soil to the plant. Food of Plants ; diversity of opinion concerning it. Changes of Forest Timber. Mr. Knight's theory as to ages of trees. Repetitions of same species of grain, or grass. Clover fails after frequent repetitions. Seed shallow, however deep, may be your breaking up.

VII. *Change your crops, and be satisfied with a good one on a small surface well prepared ; taking a pride in clean and neat farming, rather than wasting your labour and means, in extensive, slovenly, and ill requited culture. Harrow your winter grain in the spring, in the direction of the seed furrows, or drills, and be not afraid of disturbing a few plants ; manifold produce will remunerate for the few destroyed. The cracked and baked surface is thus pulverized, and the harbours for insects broken up. See Philadelphia Agricultural Memoirs, 3d. vol. 24, 50. The wheat plant throws out sets of roots in the successive stages of its growth, and most requires loose earth in its infancy.*

*Accommodate your plant to the soil, in preference to fitting your soil to the plant ; every plant requiring a peculiar attention to its own habits and organization. The Author of Nature has placed in their proper element, both plants and animals, and they are suited to their designated positions. Sand or rock plants, perish in clay or rich soils, as do those calculated for fertile ground, in sand. See a valuable essay on this subject, 14th vol. Bath Society Papers, (1816) page 136. By a careful attention to the facts and principles developed in this essay, apparently barren sands and sterile clays, may be made to produce profitable crops of appropriate plants. Our sea coasts, on their dreary, sandy, or pebbly beaches, might be filled with *Marine Pea*, which will grow in defiance of the surges, spontaneously, after the first seeding, and produce perpetual crops of nutriment, for horned cattle, sheep and swine, either on sea coasts, or the borders of lakes. The *trifolium maritimum*, (sea trefoil)*

would grow luxuriantly in salt marshes, and take place of the inferior vegetation now occupying them. Many more instances, to show the principle, might be added. The *tussilago*, or colt's-foot, delights in meagre soils, and making them rich, especially with dung, will kill it. It were to be wished, that our wild garlick were thus vulnerable. Meagre soil of any texture, cannot equal that naturally fertile, in the production of any plant ; but manure operates with double efficacy, on a plant in its proper soil. Nor is it intended to say, that, in all cases, changing a plant from a worse to a better soil, (avoiding extremes) is otherwise than salutary ; for some plants are thereby improved. But such plants must not be those exclusively calculated for particular soils. *Wheat* is, fortunately, a plant capable of being indigenated in any soil or climate, yet of this grain, there are species growing better in some, than in other soils. There are wheats for sand, and wheats for clay. The grasses (commonly so called) have varieties, strikingly adapted to appropriate soils ; and such peculiarities should be carefully studied.

It is not intended to enter into the questions—what is the food of plants ? and whether particular soils are, more than others, furnished with the pabulum for the plants natural to them ? and whether every plant requires specific food, which being exhausted, degeneracy or death ensues ? The general opinion seems to be, that all draw their nourishment out of a common magazine, in the air and the earth ; the organs of each being formed to draw the sustenance peculiar to it, and most of this from the air. Such questions are unsettled ; various opinions being entertained concerning them. The changes of timber and plants in our forests, were mentioned as indications of nature, that our crops should be changed. Most unwarrantable imputations have been cast on the writer in the Philad. Memoirs, who communicated the circumstance, now known to everybody, as if he believed in a new creation, or in equivocal generation, than which nothing is more groundless and untrue. See Philadelphia Memoirs, 2d vol. p. 358. Theorists "bears, like a Turk, no brother near the throne." But the fact were barely related, and no theory was attempted to be established.

Mr. Knight's theory, tested by strong facts, is now much credited, although at first received with great opposition. He alleges, that trees have their respective ages, beyond which the race becomes extinct. On fruit trees, many experiments seem to prove this idea correct. Grafting, or budding, from old trees, is now abandoned ; it being asserted, that the one thus propagated, will endure no longer than the allotted age of the parent tree. This subject is elaborately treated, in

British publications ; with which the curious inquirer may amuse, if not instruct himself.

The same kind of grain has been sown, in long succession, in several instances. But these, being exceptions to general experience, should be considered as anomalies. *Clover* fails, after frequent repetitions ; and the Europeans interrupt the successions of this grass, by sowing *tares* and *vetches*. After such interruptions, clover may profitably again take its course in the rotation. And thus it will be with any other plant.

Whatever be your change of crops, good farming should be invariable. Wheat or barley, on worn lands, without good tillage and manure, will not repay the expense of culture. However deep you plough, *seed shallow*. (a) The coronal roots are formed near the surface, and the plumbe and radicles perish, in whatever depth the seed be deposited. The harrow lays your field more level and fit for a cover of grass, than the plough ; and, on this account, many harrow in their grain, in preference to laying their fields in elevated lands ; which, unless your soil be wet and low, are unnecessary. But care must always be taken to draw furrows, as drains, where water would be likely to remain, and drown, or scald your plants. A great advantage derived from harrowing in your grain, is, that after your field is prepared for seeding, you can rapidly sow and harrow in your seed, and have the choice of weather and other circumstances, which the more tedious process of ploughing in your seed, would not permit. The last ploughing may be in broad furrows, as deep as those desire who plough in their seed. This mode is equivalent to their practice, and has the additional advantage of the harrow. The idea of clods mouldering in winter, and protecting the plants, and laying deeper hold when grain is ploughed in, are excuses for bad culture. Pulverize your soil, and draw furrows for drains, when necessary, and the plant will root luxuriantly, and want no clod-mouldering.

Plaster old fields for pasture and subdue weeds. Some remarks on Plaster.

VIII. *Plaster your old fields ;* which, being full of decayed and inert vegetable matter, on which the plaster acts, will throw up pasture, until you can cultivate them in course. We are not yet perfectly acquainted with all the pro-

(a) A valuable essay on the proper depth of sowing small grain is to be found in the *Richmond Enquirer*, written by Mr. Merriwether, dated 31st May, 1818 : he concludes that it ought not to be deposited more than two inches below the surface. We shall soon publish it, with a cut, to demonstrate his theory on this subject.

peries of plaster. The general current of fact prove, that salt, and salt air, are hostile to its operations. And yet there are instances where it has succeeded on our sea-board, as well as on farms remote from our coast.

Subdue weeds, and other pests, in the fields thus plastered, and all others, by the scythe, and as much hand weeding as you can afford. Weeds are your deadly foes; but, in the compost heap they may be converted into friends (b). Whilst overrunning your fields, they are robbers of the food which would supply wholesome and profitable plants. The expense or labour of eradicating them, is far more formidable in contemplation, than in reality it will be found.

Orchard Grass; its value, and advantages over *Timothy* or *Clover*. Remarks on its culture, and seed. *Poa viridis*, or *Green Grass*. *Fiorin Grass*. *Poisonous plants* to be eradicated. *Botany*; its use in farming.

IX. Sow *Orchard Grass*; if in autumn, harrow it with your winter grain. Some prefer sowing it in the spring. Much depends on the soil and the season, and you can try both modes and periods, to enable you to form the best opinion. This grass will be permanent, when *clover* (with which it is a profitable companion) fails. It is, on uplands, preferable to *timothy*, which is a great exhauster—yields but one crop of hay, and little or no pasture, on dry soils; thus leaving the field bare of cover, and exposing it to the exhaustion of the sun and winds; whilst orchard grass, by its quick and repeated growths, affords a ceaseless cover and defence.

By thus recommending *Dactylis glomerata*, for permanent pasture and hay, it is not intended to cast the least reflection on the clover culture. This is now so commonly practised, and its uses so generally acknowledged, that it is unnecessary to dwell on its excellent properties. But the clover is fugacious, (short lived) and the orchard grass, sown with it, endures in uninterrupted vigour and usefulness, when clover, in dry seasons particularly, is burned or shrivelled, or has entirely departed, having lived out its short period of existence; or having been prematurely destroyed by frosts, to which it is often a victim. The *clover* and *plaster* are so congenial, and the improvement of the soils suitable for them so universally known, that any detailed notices of them would now be superfluous.

Raise your orchard grass seed, and do not spare it on your fields. Thin sowing throws up tufts, detached and coarse. You buy, in the shops, much chaff, and little seed; inasmuch that a bushel weighs only from 14 to 16 pounds, at best, and some much less, barely sufficient for an acre. It should be sold by weight, and not by measure. No grass seed can be raised more plentifully and cheaply; and yet the expense of purchasing, has deterred its more general use.

It will be difficult to keep an old weedy farm long in grass; and the plough must, therefore,

be oftener used than a clean farm requires. Yet with composts, as top dressings, and destruction of weeds, wonders may be performed in a *grazing* system. But when the old sod is broken up, *time*, as well as good husbandry, with proper courses of crops, must be afforded. No winter grain should be sown, the first season of breaking up old grass lays. The stirring and culture of that and the ensuing year, are necessary to ensure the complete destruction of weeds and other unprofitable vegetation.

If you should be so fortunate as to conquer weeds and pests, and obtain a clear cover of the *poa viridis*, or green grass, which will not grow unmixed in all soils; it is not to be told how long your fields, with top dressings, will continue without being disturbed by the plough, if scarified, when surface-bound, by a proper instrument. This grass appear to be native, though not peculiar to this country; and it must, according to general experience, grow spontaneously.

Plants spring up in soils in which they are indigenous, without previous seeding. The experiment of cleaning by tilling, and meliorating by manure, worn out lands, and suffering them to throw up grasses spontaneously, has decisively succeeded, so as to ensure valuable crops of the appropriate kinds; which finally established themselves, after contending with intruders for a time. *White clover* seems most universally native; but *this* grows better in some than in other soils.

Those who do not attend to the laws of nature in this regard, suppose that they can, with *plenty of manure*, force plants in any soil; but this is a great mistake. *Gorging* land with dung, for any product, is expensively ruinous. There is no surer mode of first deteriorating, and finally destroying any plant out of its natural soil, than that of lavishly dunging it. And this misapplied extravagance, is injurious to plants, either of rich or poor soils. The latter are, however, the soonest killed by high dunging.

Yet, take it for all in all, changing crops, or what is called convertible husbandry, in which grass, for a reasonable period, is only a part of the rotation, will be found the most suitable to the circumstances of our country; save in such grounds in which the plough cannot be fitly introduced, and are, from their nature and situation peculiarly calculated for grass. For many such soils, those particularly which are boggy and wet, it would be unpardonable not to mention the *Agrostis Stolonifera*, or *Fiorin* grass; by means whereof wonderful improvements might be introduced, in soils fit for no other crop. Its reputation is now so completely established in Great Britain and Ireland, that objections to its culture have been entirely overcome. Failures in England have occurred, from want of care in cultivating the true species; and thus bringing its character in disrepute. The *agrostis vulgaris*, has been used, instead of the *stolonifera*, than which there cannot be a greater mistake. Those who make experiments among us, should be very careful to obtain the true kind of this plant. It is a wise plan to cultivate and bring to the most perfect state, the plants congenial to your soil, and to avoid forcing, by artificial and expensive operations, the growth of those which only serve a turn and do not permanently abide,

or are subject to disease and casualties, which appropriate plants escape. Although *fiorin* will grow in most soils, it can only be profitably employed in moist, or boggy grounds.

Be careful to eradicate all *poisonous plants*, in your pastures and fields. You will find in books, what you want in experience, proofs of the necessity of this precaution; and you will learn the dangers to which cattle are liable in this regard. Some plants are poisonous to some beasts, though safe and salutary to others. A reasonable knowledge of the useful parts of *Botany*, without burthening yourself with its endless nomenclature, would enable you to distinguish plants and their properties. A *pocket magnifying glass* should always be at hand, as not only highly useful in distinguishing plants and the enemies infesting them, but by it you could examine the particles composing earths, and ascertain their qualities and uses. This would afford entertainment, whilst it promoted your interests. Nothing is more necessary in the inspection of seed, whether of grain or grasses; you can discover, by your glass, unsoundness or malady in the one, and mixtures of worthless and injurious seeds in the other. No person should trust the naked eye, when purchasing grass seeds particularly, wherein poisonous or pestiferous seeds are frequently mixed, and many are so minute as to be invisible to unassisted sight.

(To be continued.)

From the Albany Argus.

Treatise on Agriculture.

SECTION I.

Of the rise and progress of Agriculture.

The origin of this art is lost among the fables of antiquity, and we have to regret, that in the present state of knowledge, we are even ignorant of the *time*, when the plough was invented, and of the *name and condition* of the inventor. When, therefore, we speak of the beginning of the art, we but allude to certain appearances which indicate its existence, and the employment given by it to the minds, as well as to the hands of mankind. Such were the artificial canals and lakes of Egypt. Menaced at one time by a redundancy of water, and at another by its scarcity of want, the genius of that extraordinary people could not but employ itself, promptly and strenuously, in remedying these evils, and eventually, in converting them into benefits; and hence it was, that when other parts of the world exhibited little more of agricultural knowledge than appertains to the state of nature, imagined by philosophers, the Egyptians thoroughly understood and skilfully practised *irrigation*, that most scientific and profitable branch of the art. (1) Like their own Nile, their population had had its overflow, which colonized Carthage and Greece, and carried with it the talent and intelligence of the mother country. The former of these states, though essentially commercial, had its *planta-*

(b) They ought to be deposited in the compost heap, before their seeds have matured, lest they should be propagated by scattering the manure before the seeds have been completely rotted.

(1) The best practical illustration of this opinion is found in the valley of the Po—where every rod of earth maintains its man.

tions, and so highly prized were the agricultural works of Mago, that when Carthage was captured, they alone, of the many books found in it, were retained and translated by the Romans. A similar inference may be drawn from the history of Greece; for assuredly that art could not have been either unknown or neglected, which so long employed the pen and the tongue of the great Xenophon. (2) It must, however, be admitted, that of the ancient nations, it is only among the Romans, that we find real and multiplied evidences of the progress of the art; facts, substituted for conjectures and inferences. Cato, Varro, Columella, Virgil and Pliny, wrote on the subject, and it is from their works we derive the following brief exposition of Roman husbandry.

The plough, the great instrument of agricultural labour, was well known and generally used among them; it was drawn exclusively by horned cattle. Of fossil manures, we know that they used lime and probably marl, (3) and that those of animal and vegetable basis, were carefully collected. Attention to this subject, even made part of the natural religion; the dunghill had its god, and Stercutus, his temple and worshippers. Their corn crops were abundant; besides barley and far, (4) they had three species of wheat; the *robustus* or red—the *siligo* or white—and the *tritium trimesire*, or summer wheat; they had, besides, millet, panis, zeo, (Indian corn) and rye, all of which producing a flour convertible into bread, were known by the common name of *frumentum*. Leguminous crops were frequent; the lupin, in particular, was raised in abundance, and besides being employed as a manure, (5) entered extensively into the subsistence of men, cattle and poultry. The cultivation of garden vegetables was well understood and employed many hands; and meadows, natural and artificial, were brought to great perfection. Lucern and fenn-gree were the basis of the latter, and peas, called *farrago*, were occasionally used in the stables as green food. Their flocks were abundant, and formed their first representative of wealth, as is sufficiently indicated, by their word *pecunia*. Vines and olives and their products (wine and oil) had a full share of attention and use. The rearing of poultry made an important part of domestic economy, nor were apiaries and fish ponds forgotten or neglected.

Such was the husbandry of Rome, when Rome was mistress of the world, and it was to this illustrious period that Pliny alluded, when (speaking of the ancient fertility of the soil) he re-

(2) Xenophon wrote several treatises on husbandry, and gave public lectures on it, at Sciolonte, whither a weak and wicked government had banished him.

(3) For the first part of this assertion we have the authority of Pliny; for the latter, the practice of their colonies both in Gaul and Britain.

(4) Of this last, there were three kinds, neither of which is now cultivated.

(5) The lupinus albus, of Linnæus: "many other vegetables are used for this purpose, particularly the bean, but do not answer as well as the lupin; when this is heated in an oven and then buried, it forms the most powerful of all manures." T. C. L. Simonde. *Tableau de l'Agriculture Toscane*.

marked "that the earth took pleasure in being cultivated by the hand of men, crowned with laurels and decorated with triumphal honours."

If we pause for a moment, to glance at the civil institutions of this wonderful people, we discover how soon and how deeply it entered into their policy not merely to promote, but to dignify agriculture and its professors. (6) When Cicero said, that "nothing, in this world, was better, more useful, more agreeable, more worthy of a freeman than agriculture," (7) he pronounced, not merely his own opinion, but the public judgment of his age and nation. Were troops to be raised for the defence of the republic—the *tribus rusticus* was the privileged nursery of the legion! (8) Did exigencies of state require a general or dictator—he was taken from the plough! Were his services rewarded—this was not done, with ribands or gold, but by a donation of land. (9)

With such support from public opinion, it was not to be supposed, that the laws would be either adverse, or indifferent to this branch of industry; we accordingly find the utmost security given to the labours of the husbandman; (10) no legislative interposition between the seller and buyer; neither forced sales—nor limitation of prices, and a sacredness of boundaries never disturbed; (11) lairs and markets multiplied and protected against invasion or interruption, (12) and highways leading to these, every where established, and of a character to call forth benedictions and admiration. (13)

Nor were these regulations confined to the proper territory of Rome; what of her own policy was good, she communicated to her neighbours; what of theirs was better, she adopted and practised herself. Her arts and arms were therefore constant companions; wherever her legions marched, her knowledge, practices and implements followed; and it is to these, we are to look for the foundation of modern agriculture in Italy, France, Spain, &c.

SECTION II.

Of the actual state of Agriculture in Europe.

This is very different in different states, and even in different parts of the same state; its greater or less degree of perfection, depending on causes physical, or political, or both. Where a state, or part of a state, from soil, climate, manners, or geographical position, draws its principal subsistence from the fishery or the chase, as in the more northern parts of Europe, agriculture will not succeed; when a state is from any cause both essentially maritime or manufacturing, as in England, or principally manufac-

(6) Tanus and Numa were deified for services rendered to agriculture.

(7) Cicero de officiis. L. 2.

(8) This continued to the time of Marius.

(9) As much as he could plough in a day.

(10) To cut or destroy in the night the crop of his neighbour, subjected the Roman to death.

(11) Terminus was among their gods.

(12) Assemblies of the people on days designated for fairs, and on subjects other than those of trade, were not lawful.

(13) The Appian way, yet remains the wonder and reproach of modern times.

turing, as in Prussia; where public opinion has degraded manual labour, as in Spain, Portugal, and the Papal territory, or where laws vilianize it, as in Russia, Prussia, Poland or Hungary, &c. &c. it is in vain to expect pre eminent agriculture. These principles will receive illustration as we go along.

1. In the Campania of Rome, where in the time of Pliny were counted twenty-three cities, the traveller is now astonished and depressed at the silence and desolation that surround him. Even from Rome to Trescati, (four leagues of road the most frequented) we find only an arid plain, without trees, without meadows, natural or artificial, and without villages, or other habitations of man! Yet is this wretchedness not the fault of soil or climate, which (with little alteration) (14) continue to be what they were in the days of Augustus. "Man is the only growth that dwindles here," and to his deficient or ill directed industry, are owing all the calamities of the scene. (15) Instead of the hardy and masculine labours of the field, the successors of Cato and Pliny employ themselves in fabricating *sacred vases, hair powder and pomatums, artificial pearls, fiddle strings, embroidered gloves, and religious relics!* They are also great collectors of pictures, statues and medals—"dirty gods and coins," and find an ample reward in the ignorance and credulity of those who buy them.

2. How different from this picture is that of Tuscany! where the soil, though less fertile (16) is covered with grains, with vines and with cattle; and where a surface of 1200 square leagues, subsists a population of 950,000 inhabitants, of which 80,000 are agriculturists. It may amuse, if it does not instruct, the reader, to offer a few details of a husbandry, among the most distinguished of the present age. The plough of the north of Europe, as of this country, has the powers of a wedge, and acts perpendicularly; but that of Tuscany resembles a shovel, is eight or nine inches long and nearly as broad, and cuts the earth horizontally. This instrument is particularly adapted to the loose and friable texture of the soil. A second plough, of the same shape, but of smaller size, follows that already described, and with the aid of the hoe and the spade, throws the earth, already broken and pulverized into four feet ridges, or beds, on which the crop is sown. The furrows answer a three-fold purpose: they drain the beds of excessive

(14) The climate of Italy is now warmer than it was in the Augustan age, which Buffon ascribes to the draining of great tracts of Swampy land in Germany.

(15) "Romain meme le plus indigent rougiroit de cultiver la terre." Bosc.

(16) "Two thirds of Tuscany consists of mountains." Vol. viii. p. 232. *Geographic Mathématique et physique*: See also Forsyth's remarks, p. 80, where are detailed the principal causes of her prosperity. "Leopold, says he, 'in selling the crown lands, studiously divided large tracts of rich but neglected land, into small properties. His favourite plan of encouraging agriculture consisted, not in boards, societies and premiums, but in giving the labourer a security and interest in the soil—in multiplying small freeholds—in extending the livelli or life leases,' &c. &c."

measure, vent late the growing crops and supply paths for the weeders.

The rotation of crops, employs two periods of different length; the one of three, the other of five years. In the rotation of three years, the ground is sown five times, and in that of four years, seven times, as follows:

- 1st year, wheat, and after wheat lupins:
- 2d do. wheat, and after wheat turnips:
- 3d do. Indian Corn or millet.
- 1st year, wheat, and after the wheat beans:
- 2d do. wheat, and after wheat lupins:
- 3d do. wheat, and after wheat lupenella: (annual clover.)
- 4th do. Indian Corn or millet.

In the *Syriac Maremma*, where the lands want neither repose nor manure, the constant alternation is *barley* and *wheat*, and the produce of the latter, often twenty-four bushels threshed, for one sown.

It will be seen from this course of crops, that the principal object of Tuscan agriculture, is wheat; of which they have two species, the one bald, the other bearded; both larger than the corresponding species in other countries of Europe; convertible into excellent bread and pastes, and probably but varieties of that *Sicilian family*, which Pliny describes, as yielding "most flour and least bran, and suffering no degradation from time." It is harvested about the middle of June, and when the grain crop is secured, the ploughing for the second, or forage crop, begins; which besides lupins, lupinella and beans, often consists of a mixture of lupins, turnips, and flax, the lupins ripen first and are gathered in autumn; the turnips are drawn in the winter, and the flax in the spring.

Besides the application of *ordinary manures*, the lupin is ploughed down, when in flower; a practice that began with the Romans: Columella says, of "all leguminous vegetables, the lupin is that which most merits attention, because it costs least, employs least time, and furnishes an excellent manure." The culture of this vegetable, is different, according to the purposes for which it is raised; if for grain, the ground has two ploughings and twenty-five pounds weight of seed to a square of a hundred toises; if for manure, one ploughing is sufficient. Like our buckwheat its vegetation is quick and its growth rapid; whence the farther advantages of suppressing, and even of destroying the weeds that would have infested any other crop. In the neighbourhood of Florence, they are in the practice of *burning the soil*; which they do by digging holes, filling them with faggots and raising the earth into mounds over them. The faggots are then inflamed and burnt and with them the incumbent earth, which is afterwards scattered, so as to give the whole field the same preparation.

(To be continued.)

The Sciota (Ohio) Gazette, of May 14, says: "On Friday morning last two wagons, loaded with specie, from the Branch of the United States' Bank in this place, took up the line of march for Philadelphia. The amount of specie which has thus left our state, is estimated at from \$120,000 to \$140,000."

From the Practical American Gardener.

[Published by Fielding Lucas.]

For the month of June.

General Observations.

Sift some loose earth over the seedling firs and pines, as high as their seed leaves; trim up evergreens. Budding may now be practised on most kinds of trees and shrubs; but it would be much better to be done the latter end of July. Rub off all young shoots proceeding from the stocks, which are independent of the grafts, or the inserted bud shoots.

Propagating Evergreens, &c. and Shrubs, by layers.

Most kinds of evergreens, and deciduous trees and shrubs, may now be propagated, by laying the present year's shoots: being soft and tender, they will emit roots much more freely than the older wood, and several kinds that would not root for two years, if laid in spring. In autumn, by this method, will be well rooted the autumn twelve months after laying, and many kinds before the ensuing winter. Virgin's bower, Passion-flowers, Trumpet flowers, common Jasmine, and most of the climbing plants, root immediately; when laid in this month, water them occasionally in dry weather, and lay mulch around them.

On Inoculation, or Budding.

Provide a neat sharp budding knife, with a flat thin naft of ivory, suitable to open the bark of the stocks, for the admission of the bud, and also get a sufficiency of bass strings, or shreds of Russian mats, or woollen yarn, to bind round it when inserted.

In the first volume of the transactions of the London Horticultural Society, the following improved mode of inoculation is described by Mr. Knight: In the month of June, when the buds are in a proper state, the operation is performed, by employing two distinct ligatures, to hold the buds in their places; one ligature is first placed above the bud inserted, and upon the transverse section through the bark, the other, the only office of which is to secure the bud, is applied in the usual way; as soon as the buds have attached themselves, the lower ligatures are taken off, but the others are suffered to remain. The passage of the sap upwards is in consequence much obstructed, and the inserted buds begin to vegetate strongly in July; when these afford shoots about four inches long, the upper ligatures are taken off, to permit the excess of sap to pass on; the wood ripens well, and affords blossoms sometimes for the succeeding spring.

It will be perceived, that instead of the usual mode of budding, after the commencement of the autumnal flow of sap, and keeping the bud without shooting until the following spring, when the top of the stock is cut off, this improved mode gains a season, in point of maturity, if not of growth, and has the effect of ingrafting the preceding spring, in all cases where the bud sprouts in the proper time, to form a strong shoot, capable of sustaining without injury, the frost of the ensuing winter.

Hyacinths, Tulips, and early flowering Bulbs in general.

Hyacinths, tulips, and all the different kinds of spring flowering bulbs, such as fritillarias, crown imperials, crocuses, snowdrops, &c. whose leaves are now decayed, may be taken up and treated, as directed for last month.

Ranunculus and Anemones.

When the flower stems and foliage of these are brown and dry, vegetation has ceased, and it is then suitable to take up the roots, to prevent them from shooting afresh before the right time. When the roots are taken up, their stems, &c. should be cut off close, and they placed in a shady, airy situation, free from wet, to dry gradually; previous to their being perfectly dry, they must be cleaned and separated; as they become very brittle, there is danger of breaking them improperly into small pieces; it is best to leave the roots as large as well may be, although they can sometimes be separated into many complete roots, and yet they are so closely connected, as to have the appearance of a single root.

Hardy autumnal flowering Bulbs.

The beginning or middle of this month, will still an-

swer to take up the yellow amaryllises, colchicums, autumnal crocuses, and such other autumnal flowering bulbs, as have their leaves decayed. After drying them, and separating the off-sets, &c. they may be planted again, or kept until July, and then planted. It is not absolutely necessary, to take up these roots oftener than once in three years.

Guernsey and Belladonna Amaryllis.

The roots of the Guernsey and Belladonna amaryllises, if their leaves are quite decayed, may be taken up, their off-sets separated, and planted immediately in pots. They flower in October and November; they must be protected from the early frosts, and may be treated as green house plants.

Cyclamen.

There are five kinds of cyclamens; 1. round leaved spring; 2. European; 3. Persian spring; 4. Persian fall cyclamen; 5. ivy leaved cyclamen. These are all green-house plants. They should have as much air and light as well may be, yet preserved from frosts. The leaves being generally decayed about this time, the roots may be taken up, and re-planted immediately into a composition of one half good loamy earth, one fourth sand, and one fourth light moory earth, well incorporated together, for some time before it is wanted.

The first and second sorts flower in January and February; the third in March or April; the fourth and fifth in September and October. They continue a long time in bloom. The pots when contain the plants, must not be exposed to the sun or much moisture, during the summer months; for although they are at this time in a dormant state, they would be injured thereby.

The best method of increasing these is from seed, which should be sown soon after they are ripe, or early in spring, and covered about half an inch deep; they must always be protected from frost and the summer sun. Any time in the summer of the second or third year, when the leaves are decayed, they may be treated as the old roots, and in the third or fourth year, with proper management, they will flower.

Carnations and Pinks.

Your superb carnations and pinks will now be coming into bloom; they should be protected, by an awning, from severe rains, and the extreme heat of the sun.

The methods of continuing a succession of particular sorts which you already possess, are, 1. by piping, or laying; 2. by slips taken from them in spring or autumn. It is a suitable time when the plants begin to show their flowers, to select the kinds for seed; from among the pinks, choose those which possess superior qualities, and let but one or two flowers remain on each stalk, breaking off the rest, that the whole strength of the plant may go into the remaining pods.

Propagating Carnations, &c. by Laying and Piping.

1. Laying.—When carnations and pinks are propagated from the shoots, connected with the parent plant, until after they have taken root, the operation is called laying. This is to commence as soon as the plants are in full bloom.

Previous to laying, provide a number of wooden pegs, with a hooked end, a sharp pen-knife, and some good compost earth.

A suitable layer should have three, four, or five pints, the lower leaves next the root are all to be stripped off close, to within two joints of the extremity of the layer, the leaves are to be shortened, so as to be left about two inches in length.

The surface of the pot is then to be cleared, well stirred about one inch deep, and afterwards filled up nearly level with light rich compost. After this, make the incision, by introducing the knife, on that side the layer next the ground, in a sloping direction upwards, to begin a quarter of an inch below the second or third clean joint, from the top, and continue through the middle of that joint, and half an inch above it; the small part left beneath the joint, to be cut off close to the joint, but not into it, horizontally, yet not so as to wound the outer part, which preserves the communication of the sap; the fibres proceed from the outer circle of the joint. The layer is to be gently pressed down to the earth, (be very cautious neither to break or crack it at the joint) and to be kept there by one of the hooked pegs, before-mentioned, which is to be forced into the soil, just behind the joint, where the incision was made,

the layer is supported in such a manner, that the slip may be kept a little open, a grain or two of wheat will answer this purpose. The joint from whence the fibres shoot, should be covered, with only an inch of compost. In five or six weeks' time from being laid, they frequently have roots sufficiently strong to be removed.

2. *Piping*—Prepare a bed of fine light mould; water it moderately, and mark with a hand-glass the place in which to set the pipings, so as to be planted, that when the glass is set over them, it may not touch them.

The cuttings are to be piped, are to be cut off horizontally, close under the second joint, the leaves also to be shortened, as for laying, which will leave the whole length of the piping two or three inches; they are then to be thrown into a basin of soft water for a few minutes. In this wet state, they are to be set in the earth about an inch and a half deep in the circle marked by the glass; when a sufficient number about two inches asunder, are set in the circle so as to admit the cover to be placed on, without touching them; they are then to be gently watered and left exposed to the air, but not to the sun, until their leaves become perfectly dry; after which the glass is placed over them carefully, and the bottom edges to be forced a little into the earth, to keep out the effects of the external air, and to preserve a moist atmosphere about the pipings, till their young radicles are established, and begin to act; for if fully exposed to the air before that period, it would carry off from the leaves, &c. a greater proportion of moisture, than the young plants, in their present weak state, could imbibe from the earth, and they must, of course, perish. This is the particular reason, why cuttings of every kind succeed better, when thus treated, than when left exposed to the influence of the weather. They should have a small portion of the morning sun, but shaded from it, when the heat increases, by placing mats on a frame of hoops, about two feet above the glasses. The glasses should be taken off, for half an hour at a time, early in the morning, or late in the afternoon, to admit fresh air, to prevent the plants becoming mouldy.

When the fibres are formed, which the verdure of the plants will evidence, more air should be occasionally admitted, and when they become tolerably well rooted, the glasses may be taken away; continue to water them frequently, but moderately, as they progress in growth.

Some sorts of carnations succeed much better by piping, than by laying, and make healthier plants; experience alone can enable the gardener to determine.

The directions given in article 2, will answer for the cuttings of delicate exotics, as well as cuttings of all kinds of plan s, which are so propagated; and whenever cuttings are planted, the above directions may be followed.

All fibrous rooted plants may be propagated by cuttings, as the double scarlet-lychnis, double rocket, phloxes, with many others, by cuttings of the flower stalks, managed as directed above.

Planting Carnations and Pink Seedlings.

As it is supposed, that some seed from each of these flowers, are sown every year, to procure new varieties; therefore those sown early in spring, may now be planted in nursery beds, in rows, ten or twelve inches asunder, there to remain until they show their flowers, when the single, and less valuable, may be pulled out, the best marked for laying and piping, and the others planted out.

Propagating double Sweet-Williams.

The fine kinds of these, may now be propagated, either by slips or layers. But as they are so easily raised from seeds, of which they produce abundance in the middle states, it is recommended, to sow the seeds for new varieties, and only slip, lay, or part the roots of the best.

Transplanting Annuals.

The different kinds of annuals, which will bear transplanting, may now be taken from places where they stand too close, and planted elsewhere, such as French marigold, China aspers, China pinks, China holyhocks, cocks-combs, chrysanthemums, balsams, amaranthus of various sorts, gomphrena globosa, and many other kinds, plant them in moist or cloudy weather, taking up as much earth as possible about their roots, and giving them

shade and frequent waterings, until they evidence that they are newly rooted.

Thinning and Supporting Flowering Plants.

Annual flowering plants, the seeds of which have been sown in patches, and have grown too thick, must be thinned to proper distances, according to their respective habits of growth, so as to allow them full space, to attain the utmost perfection.

Support the various climbing plants, as before directed.

Cut off close to the ground, all decaying flower stems of perennials, except such as are intended to save seed from; clear off all dead leaves, weeds, &c.

Trim, dress, and tie up all plants which require it.

Transplanting Seedling Perennials and Biennials.

Transplant from the seed-beds, the early sown perennial and biennial seedling plants, that are grown to a sufficient size; such as sweet-williams, sweet-scabious, rose campion, Canterbury bells, and monk's hood; soapwort, asters and rheixias; corn-crops, dracopetalums, &c.

Plant these out in suitable beds, of good earth, by line, six inches every way, water them immediately and repeat it frequently, giving them occasional shade from the hot sun, until they have taken root. They are to remain in these beds, until autumn, or spring, and then to be planted out finally, where they are to remain.

Stock Gilliflowers and Wall Flowers.

Stock gilliflowers and wall flowers are not sufficiently hardy, to bear the winter frosts of the eastern or middle states; therefore it will be necessary, to plant the seedlings of these kinds, in some convenient place, where a garden frame may be set over them, in winter, on which to lay boards or any slight covering for their protection, as directed in November.

Additional Remarks.

The flower borders, beds, &c. and all other ornamental compartments, must now be kept remarkably clean and neat, and no weeds suffered to grow to any considerable size, in those places.

Occasional waterings must be given, to all your late planted shrubs and flowers, particularly to the annual perennial and biennial flower plants, newly planted into nursery beds.

Your entire stock of plants, in pots and boxes, seedlings, and others, must be watered as often as the earth about them becomes dry; and there must be due attention given to these to preserve them through the season.

General Observations.

The plants being now fully exposed to the open air, will require a constant supply of water. In very hot weather, those in small pots should be watered both morning and evening, using clean soft water, without any thing put in it, which would always injure the plants.

If moss or mowings of short grass be spread on the surface of the earth, in the tubs and pots, it will materially protect the plants from the sun and drying air.

Myrtles or other hard wooded plants, which appear in a declining state, may be greatly benefited, by turning them out of their pots with all the earth to their roots, and setting them in the open borders, till September, when they are to be taken up, with balls of earth around them, and re-planted in suitable sized pots or tubs; after which they are to be placed in the shade till housed.

Propagating the Plants.

Geraniums, hydrangeas, jasmines, myrtles, China, and Otaheite roses, and almost every other kind of shrubby and under shrubby plants, may be propagated towards the middle or latter end of the month, by slips or cuttings of the present year's wood. Dress them by taking off the under leaves; plant them three or four inches deep into beds of light rich earth, where they can be occasionally shaded and watered till rooted. The covering of them with bell glasses will greatly facilitate their rooting and growth, which is the most suitable way of effecting it, particularly for woody plants, and such as are not succulents.

The succulent plants are to be propagated agreeably to former directions.

Transplant Seedling Exotics.

Now transplant singly, into small pots, any seedling exotics, which have been raised from seed this year; give them shade and water.

Budding.

Any time this month, bud oranges, lemons, &c. The buds are to be taken from the shoots produced last autumn, which will now take freely, and handsome shoots will be formed the present year. For the method of budding, see Nursery, June.

Cape and other Green House Bulbs.

The cape bulbs and tuberous rooted plants, whose leaves are now decayed, such as anthonizas, gladioluses, ixias, moreas, ornithogalums, &c. may be taken up, and transplanted immediately, or they may be wrapped in dry moss; and kept till September; but the cyclamens, &c. should be planted immediately after being taken up and cleaned, and all the autumnal flowering bulbs, as the Guernsey and Belladonna anaryllis; to keep these last out of the ground longer than the middle of July, would materially weaken them.

MISCELLANY.

SELECTIONS.

MR. WHITEFIELD.

Account of the arrival, character and preaching, of the celebrated Mr. WHITEFIELD, by Doct. FRANKLIN.

In 1739, arrived among us, from Ireland, the reverend Mr. Whitefield, who had made himself remarkable there as an itinerant preacher. He was, at first, permitted to preach in some of our churches; but the clergy taking a dislike to him, soon refused him their pulpits, and he was obliged to preach in the fields. The multitude of all sects and denominations that attended his sermons, were enormous, and it was a matter of speculation to me, (who was one of the number) to observe the extraordinary influence of his oratory on his hearers, and how much they admired and respected him notwithstanding his common abuse of them, by assuring them, they were naturally *half beasts, and half devils*. It was wonderful to see the change soon made in the manners of our inhabitants. From being thoughtless or indifferent about religion, it seemed as if all the world were growing religious, so that one could not walk through the town in an evening without hearing psalms sung in different families of every street. And it being found inconvenient to assemble in the open air, subject to its inclemencies, the building of a house to meet in, was no sooner proposed, and persons appointed to receive contributions, but sufficient sums were soon received to procure the ground, and erect the building, which was one hundred feet long, and seventy broad; and the work was carried on with such spirit, as to be finished in a much shorter time than could have been expected. Both house and ground were vested in trustees, expressly for the use of *any preacher, of any religious persuasion*, who might desire to say something to the people at Philadelphia. The design in building not being to accommodate any particular sect, but the inhabitants in general; so that even if the Multi of Constantinople, were to send a missionary to preach Mahomedanism to us, he would find a pulpit at his service.

Mr. Whitefield, on leaving us, went preaching

all the way through the colonies to Georgia. The settlement of that province had lately been begun, but instead of being made with hardy, industrious husbandmen, accustomed to labour, the only people fit for such an enterprise, it was with families of broken shop-keepers, and other insolvent debtors; many of indolent and idle habits, taken out of the jails, who being set down in the woods, unqualified for clearing land, and unable to endure the hardships of a new settlement, perished in numbers, leaving many helpless children unprovided for. The sight of their miserable situation, inspired the benevolent heart of Mr. Whitefield, with the idea of building an orphan-house there, in which they might be supported and educated. Returning northward, he preached up this charity, and made large collections: for his eloquence had a wonderful power over the hearts and purses of his hearers, of which I myself was an instance. I did not disapprove of the design, but as Georgia was then destitute of materials and workmen, and it was proposed to send them from Philadelphia, at a great expense, I thought it would have been better to have built the house at Philadelphia, and brought the children to it. This I advised, but he was resolute in his first project, rejected my counsel, and I therefore refused to contribute. I happened soon after, to attend one of his sermons, in the course of which I perceived he intended to finish with a collection, and I silently resolved he should get nothing from me: I had, in my pocket, a handful of copper money, three or four silver dollars, and five pistoles in gold; as he proceeded, I began to soften, and concluded to give the copper. Another stroke of his oratory, made me ashamed of that, and determined me to give the silver; and he finished so admirably, that I emptied my pocket wholly into the collector's dish, gold and all! At this sermon there was also one of our club, who, being of my sentiments respecting the building in Georgia, and suspecting a collection might be intended, had, by precaution, emptied his pockets before he came from home; towards the conclusion of the discourse, however, he felt a strong inclination to give, and applied to a neighbour, who stood near him, to lend him some money for the purpose. The request was fortunately made to perhaps the only man in the company, who had the firmness not to be affected by the preacher. His answer was "*At any other time, friend Hopkinson, I would lend to thee freely; but not now, for thee seems to me to be out of thy right senses.*"

Some of Mr. Whitefield's enemies affected to suppose, that he would apply these collections to his own private emolument; but I, who was intimately acquainted with him, (being employed in printing his sermons, journals, &c.) never had the least suspicion of his integrity; but am, to this day, decidedly of opinion, that he was, in all his conduct, a perfectly *honest man*; and methinks, my testimony in his favour, ought to have the more weight, as we had no religious connexion. He used indeed sometimes to pray for my conversion, but never had the satisfaction of believing that his prayers were heard. Ours was a mere civil friendship, sincere on both sides, and lasted to his death. The following instance will show the terms on which we stood. Upon

one of his arrivals from England, at Boston, he wrote to me that he should come soon to Philadelphia, but knew not where he could lodge when there, as he understood his old friend and host, Mr. Benezet, was removed to Germantown. My answer was, you know my house; if you can make shift with its scanty accommodations, you will be most heartily welcome. He replied, that if I made that kind offer for *Christ's* sake, I should not miss of a reward. And I returned, "don't let me be mistaken; it was not for *Christ's* sake, but for *your* sake." One of our common acquaintance jocosely remarked, that, knowing it to be the custom of the saints, when they received any favour, to shift the burthen of the obligation from off their own shoulders, and place it in heaven; I had contrived to fix it on earth.

The last time I saw Mr. Whitefield, was in London, when he consulted me about his orphan-house concern, and his purpose of appropriating it to the establishment of a college.

He had a loud and clear voice, and articulated his words so perfectly, that he might be heard and understood at a great distance; especially, as his auditories observed the most perfect silence. He preached, one evening, from the top of the Court-House steps, which are in the middle of Market Street, and on the west side of Second Street, which crosses it at right angles. Both streets were filled with his hearers to a considerable distance: being among the hindmost in Market Street, I had the curiosity to learn how far it could be heard, by retiring backwards down the street towards the river, and I found his voice distinct till I came near Front Street, when some noise in that street obscured it. Imagining then a semicircle, of which my distance should be the radius, and that it was filled with auditors, to each of whom I allowed two square feet; I computed that he might well be heard by more than thirty thousand. This reconciled me to the newspaper accounts of his having preached to 35,000 people in the fields, and to the histories of generals haranguing whole armies, of which I had sometimes doubted.

By hearing him often, I came to distinguish easily between sermons newly composed, and those which he had often preached in the course of his travels. His delivery of the latter was so improved by frequent repetition, that every accent, every emphasis, every modulation of voice, was so perfectly well-turned and well-placed, that without being interested in the subject, one could not help being pleased with the discourse; a pleasure of much the same kind with that received from an excellent piece of music. This is an advantage itinerant preachers have over those who are stationary, as the latter cannot well improve their delivery of a sermon by so many rehearsals. His writing and printing, from time to time, gave great advantage to his enemies; unguarded expressions and even erroneous opinions delivered in preaching, might have been afterwards explained or qualified, by supposing others that might have accompanied them; or they might have been denied; but *littera scripta manet*: critics attacked his writings most violently, and with so much appearance of reason, as to diminish the number of his votaries, and prevent their increase. So that I am satis-

fied, that if he had never written any thing, he would have left behind him, a much more numerous and important sect; and his reputation might, in that case, have been still growing, even after his death; as there being nothing of his writing on which to found a censure, and give him a low character, his proselytes would be left at liberty to attribute to him as great a variety of excellencies, as their enthusiastic admiration might wish him to have possessed.

PERPETUAL MOTION.

Mr. Spence, the ingenious inventor of the constant motion by means of magnetism, has placed one of his clocks, which is driven by the unceasing action of a magnet, in one of the apartments of the Observatory, on the Calton Hill. It was deposited there on the morning of the 4th Dec last, and the key placed in the hands of Sir George Mackenzie, Bart. Vice President of the Astronomical Institution. Mr. Spence was induced to take this step, in consequence of the assertion of several individuals, that the motion was kept up by some cause different from magnetism.

BALTIMORE :

FRIDAY, JUNE 4, 1819.

EDITORIAL NOTICES.

In some copies of the last number, material errors occurred, which the reader is requested to correct: In page 66, *hot much* should be substituted for "not much," and in the same page and column, speaking of the opinion of col. Taylor, of Virginia, and of Judge Peters, of Pennsylvania, as to the food of plants, we were made to say, "for it seems that he and Judge Peters *argue* better on these points," instead of *agree* better. We should not trouble ourselves or our readers, to have noticed this literal error, but that we would not even seem to have spoken thus irreverently of two gentlemen, so highly distinguished in the various walks of learning and public usefulness; whose services in the cause of the plough, have done more real benefit to the country, than one half the politicians in it. Would to God, that every one in his sphere, would do his duty to the commonwealth with the same zeal, the same disinterestedness, the same intelligence, and the same success, that they have, in their endeavors to improve our agricultural practices and prospects. In a letter from a gentleman, manifestly one of taste and science, which we have just opened, dated Gloucester county, Va. May 23d, 1819, he pays the following handsome and deserved compliment to the talents and public spirit of col. Taylor: His "*Arator*" has imparted a new complexion to the agricultural face of Virginia, below the mountains. In this lower section of the state, in which I reside, his little volume may be called the *vade-mecum* of almost every cultivator of the soil: as it is known to be the genuine offspring of sound practical information and experience. To this little work we are certainly under the highest obligations; particularly as its publication has given life and activity to agricultural societies, which probably never would have been called into existence, or at least would have remained for a long time spiritless and dormant. Nor does the apparent ignorance of vegetable Physiology, which the author betrays, when he attempts to theorize on the pabulum of plants, detract, in the smallest degree, from the merit of the performance, in a practical point of view."

In the next number, we expect to publish some very interesting and valuable observations, made by Th. Grillin, Esq. of Yorktown, Va. on the use of the seaweed, called in that state *sea ore*, and properly termed kelp, as a manure. For these commonications, a great number of farmers residing on the Chesapeake and the

shores of its tributary rivers, will feel themselves, as we do, under great obligations to the author. We here tender him our best acknowledgments in behalf of our readers, for the prompt, polite, and satisfactory manner in which he has replied to our inquiries on the subject. It is in this way, that gentlemen of experience most suitably manifest their gratitude to Providence, for the superior acquirements and advantages it has allotted them. Let us hope that it will become more generally the fashion for individuals to contribute their quotas of experience to the general stock, and so let good offices go round, as the sage Franklin observed, for mankind are all of one family.

Every thing from the pen of "Agri-cultur is useful and instructing; we only wish that we could have the benefit of hearing from him more frequently, and that he would add to the intrinsic value of all he writes, the weight of his own respectable signature.

We are happy, in having it in our power to announce a large and very valuable accession of French works, of modern date, to our agricultural library. When the reader reflects on the progress which agriculture, as well as other sciences have made in France of late years, the value of such an acquisition, in the prosecution of our labours, in the increased utility which it ought to confer on our paper, may be easily imagined.

The translation of a note on the "Ble de Mai," (Wheat of May) offered by Miss Bland, is particularly acceptable, and given to our readers with that pleasure we shall experience in promulgating every thing which may tend to increase the number and our knowledge of the cultivation of artificial grasses, in which we are so lamentably deficient. The grass, or grain, described in this translation differs, as it appears to us, from that sent from France, by General Armstrong, as it does from every other, of which we have seen any account. Its early and rapid growth, its excellence as food for milch cows, and its adaptation to sandy or gravelly land, makes it, in a measure, a desideratum, particularly in countries similar to the sea-board of Virginia and North Carolina. We have taken steps to procure some of it as soon as practicable; and, lest our attempt should fail, hope that gentlemen who enjoy facilities of communications with that country, will unite with us in the endeavour to get some.

The severest hail storm ever known in that part of the country, was experienced in Milledgeville, Geo. and its vicinity, on the 10th inst. It lasted for 15 minutes, and made great havoc among the window glass.—It was also very destructive to crops of small grain. Some of the stones were nearly six inches in circumference.

A most splendid ball was given in honour of the President of the United States, at Augusta, Geo. on the 17th instant.

GEOLOGY.

We observe with pleasure, that a geological society, consisting of professor Silliman, Col. Gibbs, and many other scientific gentlemen, has been formed in Connecticut. This interesting subject, until recently, has not attracted the attention, or commanded the abilities of physiologists, in the proportion which its importance seems to demand. Newton ascended to the heavens, and it appears to have penetrated but a little way to the lower regions. There have been many hypotheses of the original formation of the earth, by Whiston and others, but all of them wild and conjectural; in short, they seemed to amount to mere guessing. Cuvier has lately treated the subject with great ability, so far as it has gone; but a great deal remains to be investigated and explained. Whence arise meteoric balls, oceanic currents, earthquakes, volcanoes, but more especially, whence is the origin of rivers? If, as has been suggested, the principle of evaporation is not sufficient to account satisfactorily for this origin, it must almost of course follow, that there is an internal communication with the can; and this fact, once established, would lead, per-

haps, at last to a probable development of the whole internal machinery.—*Albany Argus.*

NOVEL INSECT.

TO THE EDITOR OF THE AMERICAN FARMER.

Cambridge E. S. Md. May 29th, 1819.

SIR—An insect, of a very peculiar kind, has appeared among my tobacco, this season, and has been infinitely more injurious to it, than the cut-worm, which last feeds only by night, and in cloudy weather; whereas, the former, by day, as well as night, and in all the varieties of weather, is equally voracious. I have never before seen a similar insect, nor can I learn that such an enemy was ever enrolled among the host that infests that plant.

I will attempt a concise description of this insect, so singular, and which threatens to be fatal to one of the most profitable crops of our state, that the inquiry and attention of farmers may be early drawn to an object, which may, at a future day, seriously command their consideration.

It is a winged insect, of the colyopterous order,* about half an inch in length, of a conical figure; a long and sharp maxilla or mouth form the apex of the con; its abdomen, a large and very obtuse base, and constituting about two thirds of the whole length of the insect; its trunk, connecting the two extremities converges in a regular slope, so as to form a perfect cone of the whole insect; its palpi are numerous and brush like; two long antennae; its six legs of equal length; colour of the wings and trunk, light and dark grey spots or blotches, the rest black.

This insect is, in point of habit, an anomaly in the insect tribe. The state in which that whole class of animals annoy vegetation, is that of the larva, or caterpillar; in the winged, or parent state, they have been deemed, I think, universally harmless, and I am pretty certain of the fact, in regard to all the variety of plants, that constitute the farmer's crops: but this insect, winged and fully matured, has, in a lot of thirty thousand hills of tobacco, growing finely, destroyed, in a few days after their appearance, at least one half of them.

What kind of larva this insect may produce, and what they may feed upon, in that state, I know not as yet, I have several of them in a transparent bottle, which I discover to feed freely upon young tobacco plants, and reject various other tender leaves, which I have given them. They will probably exhibit their progeny, with all their metamorphoses and transformations, which may afford some useful instruction, in respect to their history, habits, &c. by which means only, may we ever hope to counteract the destructive operations of the numerous insect class of animals, so extensively, and injuriously experienced by the farmer.

If, sir, you believe that a publication of the fact, may have a useful tendency, you have my permission to make it. To be early apprised of the approach of an enemy, is universally desirable.

AGRI-CULTOR.

NOTES TO THE ABOVE.

* *Colyptera*.—To most of the individuals of this extensive order, the term Beetle is applied, in common language; though, scientifically, it is confined to the first genus. All the species are furnished with membranous wings, cased in a pair of strong horny coverings, or shells. The order consists of thirty-two genera. See the *Towser's Companion*, a new and valuable English work.

† *Palpi, or Feelers*.—These are another peculiarity attached to insects; they are mostly in pairs, in some four, and in others six: they are short jointed and moveable, but destitute of the coat, or covering, observable in the Antennae; they are situated on each side of the mouth.

‡ *Antennae*.—Horns, situated on the fore part of the heads of insects, jointed and moveable in every part, in which particularly they differ from the horns of other animals.

CAPTURE OF PORTO BELLO AND DEFEAT OF M GREGOR

Capt. Fleetwood of the schooner Sam, arrived here on Tuesday, in 25 days from Porto Bello, reports that General M Gregor made his appearance off the harbor of Porto Bello on the 7th April. On the 8th he landed his forces, amounting to upwards of one thousand men, and on the day following entered and took possession of the place. He remained in possession twenty one days without succeeding in gaining any of the inhabitants over to his standard. The depredations and robberies of his party on the private property, compelled the inhabitants to abandon their houses and fly to the mountains for refuge. At the last of April, general Hore (Royalist) entered Porto Bello at six in the morning, and surprised M Gregor and his followers, who were asleep. M Gregor and five or six of his men escaped with difficulty by leaping from a window twenty feet high and swimming on board of one of his vessels.

Five hundred prisoners have been sent to Parama. There were sixty men killed and forty wounded, the greatest part of whom were officers. Stragglers were daily brought in from the neighbouring mountains. The Royalists lost 2 men killed and 4 wounded.—*American.*

FROM ANGOSTURA.

New York, May 30.

A gentleman direct from Angostura, which he left on the 3d inst. informs that Bolivar was on the right bank of the Aranca with about 4000 men, including a division of 900 Englishmen.—Morillo was on the opposite side with 6000. A brilliant affair took place on the 11th of April between the cavalry of the patriot Gen. Paez, and a part of Morillo's force, in which the royalists lost 500 men.

MASSACHUSETTS' ELECTION.

We understand the whole number of legal votes for Governor amounts to 79,885—necessary to a choice 39,943.—His excellency JOHN BROOKS has 42,875 —Hon. BENJ. W. CROWNSHIELD, 35,271. Scattering, 1730 —Majority for Governor Brooks, 2932.

For Lieut. Governor—His honour WM. PHILLIPS had 42,781; Hon. BENJ. AUSTIN, 35,232: Scattering, 296.

Lieut. Col. Towson, of the U. S. Light Artillery, commanding the garrisons in Newport harbour, has resigned his commission in the army. The Newport Mercury observes, "the resignation of this gallant soldier deprives our country of the services of one of its most distinguished officers. Col. Towson will carry with him the respect and attachment of all classes of our citizens."—*Boston paper.*

Contemplated Improvements in Boston.

A new Episcopal Church is to be erected in Common street, which will probably be commenced this month.

Another, for Rev. Mr. Sabine, is to be erected in Rowe's pasture.

Also, is to be erected, in that place, a convent as an appendage to the Catholic Church; and a very commodious Amphitheatre, or summer Theatre, in Washington Gardens.

Capt. Biddle, of the United States' Navy, in a letter to Commodore Bainbridge, has given a very satisfactory account of the affair between himself and Lord Cochran, relative to which a garbled correspondence appeared sometime since in the public papers.

HON TIMOTHY PICKERING.

With pleasure, says the Essex Register, have we ridden on the southern Banks of the Merrimack, and have heard the European, proud of their soil and its cultivation say, these lands look like the villages of my own country.

We should not overlook the good services of the President of the Essex Agricultural Society, (Hon. Timothy Pickering,) who has suffered no one to exceed him in zeal and personal services in this kind design, and now has imitated the virtue of the heroic sages in giving to agriculture the hours of his repose from public cares, that when he retires he may leave a blessing on the earth he has inhabited.

Capt. Wright, of the British navy, has been dismissed from service, for smuggling 53 yards of crape, &c.

THE POTATO.

It has often been made a question, what was the native country of the potato? and it is easy for us to participate in the curiosity respecting the original of a root that makes so important an article on a Yankee table.—In the Delaware Watchman, the following account has been given, as settling the question. By the way, which Joel Barlow so sweetly sung the charms of *Hasty Pudding*, we could wish he had also introduced by its side the lovely *Potato*, "*its cheeks all glowing with a tempting red.*"

Interesting Discovery.—Dr. Baldwin, late Surgeon of the frigate Congress, has decided the controversy respecting the *habitat* of the Potato, *Solanum Tuberosum*. He found this vegetable growing abundantly on the north side of the Rio de la Plata; in wild uncultivated situations, unknown to the inhabitants, who do not even cultivate this valuable plant, now so generally attended to in most parts of the civilized world.

It is found growing among the rocks on Monte Video, and in the vicinities of Maldonado, in the sand hills on the river shore, as well as in low moist situations, near streams of water. The largest tubers were not more than half an inch in diameter.

* * In the "Historical Remembrancer," we find the following record on the subject.—"Potatoes brought to England, from America, by Hawkins, 1563; introduced into Ireland, by Sir Walter Raleigh, 1586; not known in Flanders until 1750. They were natives of a province of Quito, and are named from the village of Potate, in the assiente of Aambato, in that kingdom.—*Boston Centinel*."

We observe by an advertisement, that a couple of Boston Druggists have prepared what they denominate Soda Powders, enough is sold for 50 cents to make one dozen tumblers of Soda Water, containing a profusion of fixed air.

At a saw mill one mile east of Chadd's ford, across the Brandywine, Del. and about the middle of last March, as a man was sawing a large poplar log, he was surprised in hearing the saw strike against something very unusual, that obliged him to stop the mill; upon examination, it proved to be a cannon ball, of four pounds weight, completely grown over, so as to leave no mark. It appears evident, from every circumstance, that this ball was discharged from the American battery on the day of the battle of Brandywine, Sept. 12, 1777, as the tree in which it was found grew just back of the ground where the British soldiers were encamped. From that time to the present is more than forty-one years, that it has lain perfectly harmless, though we cannot say what damage it may have done in its passage from the gun to the tree.

Village Record

Translated from the French, and communicated for the American Farmer, by Miss S. B. F. Bland.

A NOTE ON A SPECIES OF GRAIN OF EGYPT, CALLED

Wheat of May,

BY MR. BOTTIN.

There has been cultivated, for some years past, in Belgium, a peculiar kind of wheat, originally from

Egypt, the vegetation of which is so rapid, that it may be gathered in three months after being sown. Every one must be sensible of the importance such a culture may be of in disastrous years; and we therefore give here with pleasure, the substance of a communication inserted in the Physico-economic Library, a pamphlet of May, 1817, digested by Mr. Bottin, from documents that he obtained of Belgian farmers, who had applied themselves to this culture. This wheat was brought from Egypt by a Belgian soldier, who was in the French expedition to that country. He was told, that it yielded, in that country, two crops a year. He gave a small quantity of it to one of his friends, who sowed it in his garden, where it succeeded perfectly well. This grain was soon transplanted from the nursery to the fields, and was naturalized by extensive experiments, made during seven years, on an extent of more than 150 kilometres, (or 11a. 1r. 7p. 77yd. 8 s. f) in Brabant Flanders, and Hanover.

Mr. J. Thomas, of Gosseles, near Waterloo, was the first who undertook to extend its cultivation. He got from the person who had tried an experiment, with it in his garden, nearly seven hectogrammes, (or a pound and a half,) he sowed a bed of it, towards the middle of April, 1812. He was recommended to sow it very thin. When it began to grow, the young plants appeared so sparse that he considered the experiment as lost, and scattered carrot seed over the bed where he had sown it; but what was his surprise, when afterwards he saw spring forth as many as thirty ears from the same stalk, and his little field entirely covered with wheat! His surprise was not yet augmented, when a hundred days after it was sown, he saw it in a state of maturity. The crop produced him nearly 348 hectogrammes (or 74 lbs. 6 oz.)

In 1813, Mr. Thomas gathered a great deal of this grain; in 1814, his crop was 600 kilogrammes, (or about 1,250 lbs.)—he distributed a part of it to many farmers, who made a great quantity of it, particularly Mr. Art, of Gemappes. In 1815, the field Mr. Thomas had sown with Egyptian wheat, was laid waste by the soldiery, and he gathered from it no more than 340 kilogrammes for about 150 lbs.) of grain; but in 1816, his success was such, that his crop of Egyptian wheat was a third more than the best common wheat of that year, and as heavy.

This circumstance, of the great abundance of the Wheat of May, the name by which it is generally known in Belgium, compared to that of the autumnal wheat, appears very remarkable, especially in a year, when bad seasons were so destructive to the crops of grain in general; so much so that 150 kilometres (or more than 93 m.) from there to Zonnebeke, near Ypres, in the same year of 1816 Mr. Delevalye obtained from a considerable sowing made on the 23d April, in heath land, that had only been three years in cultivation, and of bad soil, deemed unfit even for the production of wood, a Wheat of May, heavier than the best wheat that he had gathered in the same year; and of which, bread, of an excellent quality has been made. Thus, the opinion of these two farmers, Messrs. Thomas and Delevalye, is, that the Wheat of May will grow better than any other in sandy and gravelly soil.

M. Bottin adds, that bread of the flour of the Wheat of May, is of a kind between that of autumnal wheat and of rye: that it is good, well tasted, and very wholesome; it is of a browner colour than common wheat bread, but less so than that of rye. Its crust is very cohesive; it is more easy to digest than rye bread, especially when it is sufficiently sifted; its fine bolted flour differs in nothing from that of wheat.

It has been ascertained that the Wheat of May afforded much alcohol, by distillation, and that it would be no less profitable to the brewer.

The Wheat of May may be compared, with regard to culture, its quality, and its product, to the three months grain, the tremenon and dimenon

spoken of by Theophrastus and some other ancient Greek authors; to the three months grain of Pliny, to the *setonios* of Dioscorides and of Galen; it is the same, perhaps, as the *trimenis* of Salernum, of Lucania, and of Calabria; the same as *tonvina* of Sicily, the *grum mezzatica* of Naples, and the *grano mezzatica* of Tuscany.

It has the appearance in its growth of barley, and it is easily affected by frost. In 1814, at Gosseles, its tops were nipped one night, in the latter end of April; notwithstanding this accident, the harvest was abundant. The stalk, as it approaches maturity, has more strength, and sustains itself better than any other grain; the heads are bearded, and the beard adheres to the straw, as in autumnal wheat, and not to the grain, as that of ripe barley. Mr. Thomas observed in 1813 and '14, that as it ripened, the beards fell from a great number of ears, and that then the ears of the Wheat of May, much resembled those of the common wheat. In 1816, on the contrary, all the heads preserved their beards, which Mr. Thomas believes may be attributed to the coolness and great humidity of the season.

The grain of the Wheat of May is red, of the same form, but somewhat smaller, than that of winter wheat; also, its stalk is not quite so high, and is hollow like that of the latter. Horses eat this straw as readily, and perhaps more willingly, than the common kind because it is more tender.

Mr. Thomas cut it three times, from month to month, from the same field, to give it green to his cows, and he obtained from them, whilst they fed on it, excellent milk, and in great quantity. He thinks, but without having made the experiment, that it might be given green to horses, with equal advantage.

Wonderful Expedition.—The Post Chaise Line, via Staten Island, Left New York on Monday morning, quarter past 2 o'clock, and arrived here 5 minutes before 11 o'clock, bringing us, the New York newspapers of the same morning, having performed the route in 8 hours, 40 minutes. The passengers dined at Renshaw's elegant Hotel, and having transacted their business, returned in the same Line to New York, where they intended taking an early supper.

The Citizens Post Coach left New York on Monday morning, at 5 o'clock, and arrived at Judd's Hotel, 5 minutes before 1 P. M. By this Line, we also received the New York papers of Monday morning. Route, by day-light performed in 7 hours, 55 minutes.

Can any thing in Europe equal this?—*Phila. Free Jour.*

Present prices of Country produce, in the Baltimore Market.

The same reasons which induced us last week to omit the current prices of tobacco, still exist, and prevent our attempting to give a regular fair quotation; we were advised to say, for St. Mary's tobacco, from 6 to \$8; Benedict, 8 to 10; and Upper Patuxent, 10 and \$12; but we learn within the week, that 8 50 and \$10 50, have been refused for twenty hogsheds, Mr. John Southorn's from Chaptico, of fine quality. At the same time, we know of a small parcel of St. Mary's, having sold for \$7; so that we must leave the Planter to his own calculations and patience.

Wheat, red, from 1 10 to \$1 12 1-2.
white, 1 15 to \$1 20.

Rye, 75 to 80 cents.

Corn, 44 to 48 do.

Hav, 18 a \$19; Straw, 13 a \$14.

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,
BALTIMORE,

AT FOUR DOLLARS PER ANNUM,

PAYABLE IN ADVANCE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, JUNE 11, 1819.

NUM 11.

AGRICULTURE.

From the Memoirs of the Philadelphia Agricultural Society.

Notices for a Young Farmer, Particularly one on Worn Lands, &c. &c.

WITH NOTES BY THE EDITOR OF THE FARMER.

[Continued from No. 10, page 74.]

Explorations for Earths as Manures. Apparatus for analyzing soils. Uses of chymical and mineralogical knowledge to a farmer. *Jersey pyritous Earth.* Water to be applied to all its uses in husbandry. Advantages of some knowledge of *practical surveying, hydrostatics, and the mechanic powers.* Miscellaneous duties.

X. Explore your own, and the neighbouring farms, for clay, marle, peat, earths, &c. for common benefit, and emulative experiment. Mixing soils of different qualities, improves more lastingly than dung. Some acquaintance with MINERALOGY, would induce you to provide the necessary and simple apparatus required in analyzing soils; and that described and recommended by Lord Dundonald; in his "*Connexion between Chymistry and Agriculture*," would be amply sufficient. See 1st vol. Philadelphia Agriculture Memoirs, Selections, p. 57. You may also consult Sir H. Davy's Agricultural Chymistry, on this subject.

A moderate share of mineralogical and chymical knowledge, without extending it to the length required in a *Seavan*, will enable you to distinguish the qualities and properties of earths; so as to discover in your experiments, whether any substance be or not durably nutritious to plants; or a mere stimulant, (useful in its place, and due proportion,) urging on the operation of other materials, without adding of itself, any thing to the stock required for permanent fertility. It is said, by some, that the *Jersey pyritous earth*, called marle, is of this description; and by others, that it is permanently fertilizing. Nothing decisive can yet be pronounced, as its many varieties differ in their respective effects. There are facts both ways; so that this earth, when applied, and the soil it is intended to assist, should be carefully scrutinized, and the qualities of both practically known. Some English chymists, to whom it has been sent, style it a *Hydrate of Iron*; whilst others designate its composition, as a collection of decomposed *granite, chert, silex, alumine, iron*; in some specimens, (no doubt, those mixed with shells,) *lime* and *magnesia*, with *sulphur*. A more accurate

knowledge of its parts and properties, is still required: and it is to be wished, that our own chymists will give us their assistance. *Broom grass*, and other pests on worn lands, may be destroyed by a top dressing of this earth and chloritic sands of a similar, though not so potent a nature, which substitute a natural growth of white clover. They may be ploughed in, for permanent melioration, after laying for some time. These substances may be found in many parts of our sea-board country.

Render WATER subservient to all its purposes. Dams and ponds for collecting streams and their deposits, are magazines for manure, as well as heads for irrigation of grass, or even tillage crops; and watering is found, in countries where it is practised, equally beneficial to both. When springs or streams are absent, dams, to retain the deposits of rain-floods, are highly advantageous; by furnishing temporary irrigation, and, finally, supplies for the compost heap. The Chinese have, time out of mind, set examples of constant use of irrigation: and their modes of raising water from rivers, streams, &c. and of applying it, are to be found in many writers. (a)

(a) IRRIGATION. This word means watering or moistening the land, and comes from the Latin word *irrigō*. All such *hard words* ought to be explained once at least, for the benefit of readers, who are neither Lawyers, Doctors, nor Latin scholars. The means and the benefits of irrigation, or watering, were it seems, well known, and extensively practised, by the aboriginal Americans, on the Pacific Ocean, as is attested by that magnificent internal improvement, called the WORK OF MAYPU, near the capital of Chile.

This fertilizing operation is accomplished by conducting the stream of water in a ditch above the field to be watered. The ditch being stopped up at any given point, a trench is opened in the bank and the water is passed any where through the field in small furrows which may be made by two courses of the plough.—These furrows are opened at any desired distance from each other.

Judge BLAND, in his late report concerning that country, attributes, in part, the great product of the Wheat crops in Chile, to the practice of irrigation. In page 77—78, he remarks:—

"The average production of wheat in the grain country south of Aconcagua, I believe to be truly estimated at about fifty bushels for one sown. The soil of the valleys of Chile, certainly has every external appearance of fertility; but, still I am inclined to believe, that much is to be attributed to the peculiarity of the climate of the middle and northern parts of the state. The

Acquire some knowledge of PRACTICAL SURVEYING, and procure a small Compass, or a plane table, or cross at least, with a chain and level. You will thereby be enabled to lay out your water courses, drains and ditches, to the greatest advantage. You could, also, lay out your fields regularly, and you should note their contents, and designate them by names, or descriptions. Too large enclosures are not beneficial, smaller fields afford more changes for cattle or tillage, and are more neatly, and less wastefully, fed or farmed. Some acquaintance with *Hydrostatics* and the *Mechanic powers*, would aid you in many branches of your business.

Visit, often, every part of your farm; and fix beforehand, your work. View, frequently, not only your water courses, but all your enclosures, to crops and woodlands; and note what is amiss. You will thus guard against evils consequent on negligence.

Show yourselves in your fields; in busy seasons especially. Your presence will animate the industrious, and stimulate the unfaithful and in-

grain is sown at the commencement of the rainy season, or soon after it sets in: after that is over, and as it is required, the field is regularly watered from a neighbouring stream: there is not much dew, no rain, and never a wind to break or prostrate the stalk of the grain during the period of its growth: thus furnished with an abundance of moisture at the root, where, for wheat, it seems to be only wanted, a fervid sun, uninterrupted either by fogs, or rains, or heavy blasts, or cold seasons, which, in our country, so often disappoint the hopes of the farmer, urges an uncommonly generous soil to exert all its energies, and gently brings to maturity all its fecundity."

"The soil of the valleys of Chile, is as productive of barley as of wheat; and apparently, for the same reason, but there is not much Indian Corn raised; because, as is said, it requires its top as well as its root to be moistened and refreshed; and, therefore, the climate does not every where suit its growth as well as it does small grain. Chile is no less wonderfully fruitful in the production of hemp than in wheat."

"In the dry regions, the ridges and lesser mountains, which cannot be watered, seemed to be condemned to perpetual pasturage: they are annually clothed with a rich coat of grass, which is slowly ripened, and gradually dried into hay, in which state it remains on the ground as good food for the cattle until the first rain in autumn, when it is spoiled or swept off, and there follows a season of scarcity of about two months, until this mountain grass springs up again." [His description of the famous work of Maypu, in our (next.)]

dolent. More profit will arise, if your concerns are extensive, from such attentions, than from all you could accomplish by your personal labour confined to one object; to which, however, if your circumstances compel you to submit, you will soon discover the superiority, (according to the country phraseology,) of "come boys," to "go boys." The one ensures your work;—the other leaves it half done. If you are rich enough to employ an *Overseer*, you will be fortunate if he will not require *overlooking*.

Although some of the acquirements and duties herein recommended, may not be necessary to a mere practical farmer; they are not the less worthy of the attention of one who wishes, and has it in his power, to gain a more perfect knowledge of his profession.

Casual failures should not discourage confidence in a general rule; nor controversies about theories, prevent perseverance in good practices.

XI. Be not discouraged by *casual failures*, from repetitions of good practises. Some seasons are more inauspicious than others, to some particular plants, or modes of culture. Confide in a general rule, although, in some instances, there may be successful exceptions. Avoid controversies about theories. A useful result is often neutralized, or lost, in a dispute on the cause or mode of producing it. A careful attention to *facts*, is far more instructive than the most elaborate discussions on theories.

Summer Dung to be collected; and how to be treated. *Hot lime* injurious, and some remarks on *Dung*, and its state of fermentation.

XII. Gather all your *SUMMER DUNG*; dropped near fences and hedge rows, (if you will suffer such incumbrances,) and under trees, and mix it with earth, on a ploughed head-land, to save it from sun, winds, and dung-beetles. All dung should be covered either with earth or a roof, to prevent evaporation and waste of its most valuable ingredients. Mix no *hot lime* with your muck, dung, or compost-heap, before fermentation has ceased, or sufficiently advanced, as it injures moderate fermentation, and often consumes the muck. Instances, of even conflagration of strawy muck, by hot lime, to a great extent, can be given. No doubt, excess of fermentation is injurious; and over-rotted dung is not desirable. But extreme cases should not be resorted to, for instruction or argument. If lime be used, that slacked is always safest and best, when mixed with either dung or compost. A justly celebrated Lecturer, (Sir H. Davy,) objects to *watering* dung. But it can be proved, by many facts, that infinitely more losses and injuries to dung in stercoraries, have accrued from the *dry rot*, for defect of moisture, than can be produced in watering muck or dung, from any cause. In covered stercoraries, as all ought to be, watering judiciously is all essential. See, among other proofs, Mr. Quincy's account of his stercorary: 3d vol. Philadelphia Agricultural Memoirs, p.p. 292, 3, 4, 5.(b)

(b) Extract from Mr. Quincy's account.

"The area of my stercorary is 90 feet by 40. the cellar is in the shallowest parts 8 feet deep, in its deepest 12 and in the well, if I mistake

Winter Grain, subject to injury when sown the first year of *liming*.

XIII. *Sow no winter grain* the first year of *liming* fields. The crop is generally retarded in ripening, and caught by mildew, blight, or rust. The *liming* here meant, is one sufficient for durable improvement of the soil. Those who lay on lime in small quantities, which may do neither good nor harm, often, (not always,) escape injuries, though they gain no immediate advantages.

Nothing requires more attention to the nature and qualities of your soil, than the use of *lime*. If it be too lavishly applied, or too frequently repeated, without intervals of grass to furnish vegetable matter; or manures, either animal or vegetable, ploughed in for the *lime* (according to the country phraseology) to feed on; it renders your ground *lime sick*, and reduces it to sterility. Our caustic lime must be applied in quantities very far less than the *mild lime* of Europe, if we would avoid turning a highly beneficial auxiliary into a destructive scourge. No certain rules, as to quantity per acre, can be fixed, without a perfect knowledge of the soil to which it is to be applied. In all cases, moderate quantities, at first, are the safest. Our common lime is here meant; as much depends on the kind of lime applied. It must therefore be the study of those who apply lime, to discover its composition, or

not, &c.—It is open, nearly the whole length of one of its short sides, and one half of the long, viz. at the north and west, besides large openings at the east. There is always 4 or 5 feet atmosphere above the top of the manure, and between it and the barn floor: and a constant current setting one way or another. This gives the advantage of a free circulating air, which in general, in such cases, is not obtained.

"The great difficulty I have had to encounter, arises from the necessity of an *equal irrigation* of the heap; a difficulty, which must attend all permanently covered stercoraries. For water turned upon the heap through spouts, runs, in currents, and is not equally sprinkled over the heap, like rain; which is nature's process in this business. To obviate this difficulty, I have constructed a very simple machine, which answers perfectly. The stone piers, which support the beams of the barn, divide the cellar, lengthways, into three equal compartments. I have a box 6 inches deep, 4 feet wide, and about 13 feet long, which runs by means of wheels, upon a sort of wooden railway, made by strips of planks and fixed about a foot from the floor of the barn, this is perforated with suitable holes. A permanent spout extends through the middle of the cellar, and a moveable spout extends from this to the perforated box—regular openings are made in the permanent spout, which may be closed at will.—It is also closed at the end. By these means, the box is filled from the reservoir and pump, and each part successively irrigated, perfectly and with great ease. A man, by two day's labour, can irrigate my whole cellar, and if effectually done, twice in a season is sufficient.

I have been thus minute, because I thought the detail would not be displeasing to you, and that I owed it to the interest you expressed in my project.

what is called its strength; before they can form a correct opinion of its salutary or injurious uses. It would seem, that the *mild lime* had some fertilizing qualities *in itself*; otherwise the lavish use of it, whereof we read, cannot be accounted for. The lime of *burnt oyster shells*, is *mild*; and land of any tolerable staple will bear great quantities, beyond the proper allowance, to the acre of caustic lime. See Mr. *Adlum's* letter, page 100 of the fourth volume Phila. Memoirs. Many other instances might be adduced. Both large and small quantities operate at once. But it is fugacious; and compared with caustic lime, soon exhausted. Of the *mild lime* of England, seven hundred bushels have been put on an acre; and two hundred bushels are common. What is the strength of their *mild lime* compared with oyster shell lime, or with our magnesian or caustic lime, is unknown. Forty to sixty bushels of the latter, are amply sufficient, with us, for any worn acre; and for most of our worn land, too much, at the first dressing. What quantity of oyster shell lime is proper at first, is not yet ascertained. Repetitions of smaller quantities, at intervals, would be better than applications of too much at once.

Mere practical results being here intended, you must consult books, for technical and copious discussions on lime.

Selection and change of Seed Crossing *meliorates Grain and Fruit*. *Quantity of Seed* to an acre. Variety of opinions concerning it. *Drill Husbandry*, and sowing in drills. *Plaster sown on winter Grain*. *Hessian Fly*; some remarks on it, and some guards against its injuries; *Wheats* believed to be capable of resisting them.

XIV. *Select the best seed of all your grain*; roll it in plaster, after wetting it, if you will not steep it. But a change of seed entirely, when the grain has been sown too long on the same farm, can be at once accomplished, by procuring a full supply from distant places, and the more distant the better, without waiting for the tedious process of gradual selection, however commendable the latter may be. All thoroughly experienced writers recommend changes.(c)

(c) On a matter, upon which opinions so contradictory are entertained, by men of equally good judgment and extensive experience, it would be presumptuous for the Editor of this paper to decide, who is right and who is wrong. From his own limited observation, and the comparison of facts adduced by different writers, he inclines to the opinion, that the benefit to be derived by *change of seed*, bears no comparison to that which results from a careful and judicious *choice of seed*, or of breeding stock.

When the farmer has come to a satisfactory conclusion, as to what kind of grain, or what breed of animals is best adapted to his purposes, all circumstances considered, we are persuaded that little then remains for him, but to choose, each year, from his general stock, such ears of corn or individual animals, as are most remarkable for those particular qualities, which induced him to adopt them for cultivation or for breeding. Thus, we are persuaded, those desirable properties may be, not only perpetuated, but enhanced from year to year, and brought speedily

Some distinguish between native and exotic plants. Our cultivated grains, particularly *wheat*, are exotic and should be frequently changed: though some instances of long con-

tinuance of the like crops from unchanged seed may be produced. Where wheat is native, it is a mean grass; it being of the *Gramina* tribe. It has been improved to its new perfect state, by change of locality and culture, and by *crossing*; which is effected by sowing different kinds together. Wheat so crossed, has been proved to resist mildew and other maladies, when common wheat of one kind, in the same or adjacent fields, has been ruined. Melioration of plants by crossing is found to be so successful, that in England, they are in the practice of applying a similar process to fruit trees. Mr. Knight has been very fortunate in renovating their Orchards, by crossing, from applying the pollen of one kind to the pistil of another, different kinds of apples, so as to produce, in a course of time, a new and vigorous race of apple trees; the old kinds having been, for many years, in a state of irretrievable decay.

to a state of the highest susceptible improvement. Witness the experiments of *Bakewell*, in *forming* breeds of different kinds of live stock. Not by crossing the breed, but by breeding *in and in*, as it is termed. His object was to obtain the greatest quantity of meat and the readiest disposition to fatten, with the least bone. The bone in the leg of the *Bakewell Sheep*, of which an account was given in the second number of the *American Farmer*, was scarcely larger than the small end of a man's little finger.

The Gourd seed corn, of which we spoke in a former number, as being so remarkable for numbers of rows and length of grain, was much improved, in these respects, by selecting from the whole corn loft, for seed, such ears as excelled most in these particulars, and was at last brought, as the Editor recollects, to so great a degree of excellence, in these points, that it was not an uncommon thing to find ears having from thirty-four to forty rows. The Hon. Judge *Duwall* informs us, that he now has the cob of one which we gave him, from which he shelled forty perfect rows. It will often happen, that a particular stock of animals, may possess several desirable qualities, and yet be deficient in some excellent point possessed by some other breed, which, except in that point, may not be so good; in such case a *cross* in the breed is to be recommended—but when the farmer has obtained the desired combination of good qualities, then let him stop and breed *in and in*. We apprehend, that the *Bakewell* and the fine sheep of the *Blakes* and *Reynolds*, on the cliffs of the *Chesapeake Bay*, in *Calvert*, would be an excellent cross.

To collect good seeds, according to the observations of Mr. Cooper, of Philadelphia, consists not in producing new seeds from distant places, as is generally supposed, but in selecting the best seeds of his own; which, though he has constantly sown or planted them in the same soil, every article of his produce is greatly superior to those of any other person who supplies the market, and they seem still in a state of improvement. He believed that no kind of incest would degenerate the breeds of vegetables, and therefore adopted the plan of Mr. *Bakewell*, in England, in respect to quadrupeds, who continued to improve his flocks and herds by the management of those, in which the properties he wished to produce, were more conspicuous, without regard to consanguinity or incest—let us here add the remarks of that enterprising genius and learned philosopher, Dr. *Darwin*, in his *Phytologia*, page 408.

“Where new varieties are required, the male

But the crossing must go no farther than the point of melioration; i. e. unnecessary repetitions should be avoided. The barriers of nature

dust of one good variety, as of the nonpareil apple, should be shed upon the stigmas of another good variety, as of the golden pippin; and it is probable some new excellent variety might be thus generated.

“Mr. Knight has given a curious experiment of his impregnating the stigmas of the pea-blossoms of one variety with the farina of another. He says, *Treatise of Apple and Pear*, page 42, “Blossoms of a small white garden-pea in which the males had previously been destroyed, were impregnated with the farina of a large clay-coloured kind with purple blossoms. The produce of the seeds thus obtained, were of a dark gray colour, but these having no fixed habits, were soon changed by cultivation into a numerous variety of very large and extremely luxuriant white ones; which were not only much larger and more productive than the original white ones, but the number of seeds in each pod was increased from seven or eight to eight or nine, and not unfrequently to ten. The newly made gray kinds I found were easily made white again by impregnating their blossoms with the farina of another white kind. In this experiment the seeds, which grew towards the point of the pod, and were by position first exposed to the action of the male, would sometimes produce seeds like it in colour, whilst those at the other end would follow the female.

“In other instances, the whole produce of the pod would take the colour of one or other of the parents; and I had once an instance in which two peas at one end of a pod, produced white seeds like the male, two at the other end gray ones like the female, and the central seeds took the intermediate shade, a clay colour. Something very similar appears to take place in animals, which produce many young ones at a birth, when the male and female are of opposite colours. From some very imperfect experiments I have made, I am led to suspect, that considerable advantages would be found to arise from the use of new or regenerated varieties of wheat, and these are easily obtained, as this plant readily sports in varieties, whenever different kinds are sown together.” See sect. VII. 2. 6. of this work.”

must not be broken down. Hybridous (*d*) mixtures are unfruitful and worthless.

Our grain plants do not tiller, or stool, as formerly; and especially those necessarily sown late, to escape the *Hessian Fly*. A greater quantity of seed must therefore be allowed, than our predecessors were in the habit of using. One would imagine, that in countries celebrated for agricultural knowledge, the point of thick or thin sowing had been long settled. Yet, in *England*, the *Farmer's Journal*, (a most valuable publication) is filled with disputes on this subject, especially on the question, whether poor land should or should not be sown thickly, and rich land thinly?—Poor land should not be sown at all, with wheat, or any grain requiring much nutriment, if any adequate return be counted upon: It seems that spring wheat is sown thick, as far as three bushels to the acre, in the month of April, or beginning of May. A kind—the *triticeum aestivum* of the Botanists, may be hoed, dibbled, or harrowed in, on bare places, where grain sown in autumn has failed; and will ripen with the autumn sown grain. It is bearded, with white straw and reddish grain, and does not mildew. The *Talavera*, or Spanish wheat, is now in great credit in England. Possibly spring wheat would generally escape the fly. No successful means have been taken to gain a perfect knowledge of agricultural facts, in regard to this formidable foe, although we have so long suffered under its desolating ravages. *Oats* may sometimes attract the fly and save your wheat; as *buckwheat* sown or accidentally growing among corn-hills, invites the grub from your corn-plants.

The *drill-husbandry*, and seeding with instruments for sowing in drills, calculated to save, as well as more regularly to distribute and nourish the seed, have had many vicissitudes of opinion and practice in Europe. Here, experience has been so much confined to a few, that it would be hazardous to pronounce, decisively, concerning it. It has zealous advocates; and should be an object of experiment, where circumstances warrant and require the practice.

Some contend for the efficacy of plaster sown on the winter grain, both for its beneficial operation on the growth of the plant, and to *repel the fly*. In the “*Inquiries on Plaster*,” republished in the 2d volume of the *Philadelphia Memoirs*, a suggestion of its uses to *repel the fly* was made; and lately it has been alleged, that it has been attended with success. But as to its use in increasing the growth or productiveness of the plant, great differences of opinion exist. When grass, (clover especially) is sown on the grain, as is now the common practice, plaster is apt to throw up the grass so luxuriantly, that it injures the growth of the wheat or rye, by keeping the lower joints of the stems so moist and tender, as to check the circulation of the sap; and cause them to lay or fall, when the heads are formed, and become heavier than the straw will support; though they are often mere chaff, through want of sustenance which is engrossed by the grass. Still the practice has respectable advocates.—Clean and good farming, with a sufficiency of

(*d*) *Hybridous*—a “hard word.” It is derived from *hybrida*, latin, and means begotten between animals of different species.

sufficiency of manure, admitting late sowing so that the flights of the flies are, for the most part over, before the young wheat plants are in sufficient forwardness to afford a lodgment for the eggs or nits of the fly, seem to be the best guards against its ruinous ravages. Wheats with solid straw, resist the compression of the indurated tegument containing the nits, whilst pip systems yield to its pressure, and when the head is formed, become prostrated by its weight. The yellow bearded wheat has been found to escape injuries from this inveterate destroyer. Some other kinds have been spoken of, as having similar properties.

[To be continued.]

On the Kelp, or Sea Weed,

AS A MANURE.

Knowing, as we do, that a great quantity of *kelp*, or as it is usually termed, sea weed or sea ore—is cast upon the shores of farms in Maryland, lying on tide water, the following communication of experiments, as to its utility, as a means of fertilizing land, caught our attention in the *Richmond Inquirer*, in February last, and was read with special interest. Of all species of litter for farm yards and stables, this appears to be the best, because independently of its own fertilizing powers, it serves as well at least as any other litter, for absorbing and retaining other manures with which it readily and advantageously compounds. Observing that some time had elapsed since the date of Mr. Griffin's memoranda, and presuming that in the mean time he had multiplied his experiments, we took the liberty of addressing him, soliciting the results of his subsequent observations. The letter, bearing date May 26th, 1819, is the reply with which we have been politely favoured, and for which we repeat our acknowledgements.

We have understood, that Col. Maynadier, the President of the Agricultural Society, at Annapolis, is making trial of the *kelp*, on his land, and we shall endeavour to procure the result.—It is probable, that it will act with more or less efficacy, according to the saltiness of the water with which it is saturated, at the time of being thrown upon the shore, and the interval which elapses between that and the time when it is applied either to the farm yard, or to the land. In all situations, however, it must be a valuable resource, either as a manure in itself, or a ready means of collecting and increasing other manures, and ought to be husbanded accordingly.

PAPER LAID BEFORE THE AGRICULTURAL SOCIETY OF VIRGINIA, AT THEIR LAST MEETING.

"The splendours of royalty, and the trophies of ambitions, may elevate the voice of adulation, but they expire with the hour, and the monarch. They, indeed, are the benefactors of mankind, who bestow on posterity their most refined pleasures, and their most useful speculations."

Yorktown, Nov. 8, 1818.

SIR,

Being of that class of society denominated agricultural, I beg leave through you (the organ of communication) to tender to the "Agricultural

Society of Virginia," my thanks for their exertions to revive the almost expiring husbandry of our country. I have been much gratified in the perusal of their proceedings, and I hope edified by the communications they have given to the public. Let them steadily proceed in their laudable objects; they will soon receive the meed of their useful and patriotic labours, in the applause and gratitude of their fellow men, and the delightful reflection of having advanced the character and prosperity of their country.

When I reflect that agriculture is the only source whence man, and I may say almost all animated nature, derive the means of subsistence, I am astonished at the neglect, and apparent contempt, with which she has been treated. Indeed until within a few years, the pursuits of husbandry were not deemed the most reputable, or honourable. What! can that be aught than reputable, which gives bread to man? Can that be aught than honourable, which increases individual and national prosperity? And yet, when on one side I view with exultation, the increasing commerce of this nation, unfurling her swelling canvas to every breeze, and on every sea; nurtured, and supported, by legislative aid and legislative protection: on the other I am appalled by the melancholy picture which her *elder twin sister*, Agriculture, presents—sinking under unmerited neglect, and pining in unassisted obscurity, apparently "the world forgetting," certainly "by the world forgot."—"Look on this picture, and on that," and laying your hand upon your heart, deny, if you can, that the industry and enterprise of mankind have been too long diverted from a pursuit and occupation, which seems to have been marked by heaven, as their most useful (and consequently) honourable avocation. The "Agricultural Society of Virginia," having thrown open the doors of inquiry, and solicited the lights of experimental knowledge, I beg leave to obtrude upon their time, and to offer to them the results of some crude experiments on substances for manures. The patriotic and enlightened president of your society, has been pleased to say, (and very justly) that "the first necessity of agriculture, is fertility;" permit me to add, that the grand arcanum of good husbandry, is the production of the greatest possible quantity of fertilizing earth. In the present exhausted state of our lands, produced by the unaiding and unrelenting culture, (I mean no disrespect to their memory) of our progenitors, it becomes absolutely necessary to resort to artificial and natural manures to restore their lost fertility. Fully impressed with this belief, a few years past, my attention was drawn to a marine vegetable, which promises to reward the labourer for his toil—the "*kelp*," or "*sea weed*" as it is commonly termed. This is an indigenous plant, growing on the beds of our rivers, and thrown upon their shores by the tides. I commenced my experiments in 1809, thus: I covered a space of land of ten acres with kelp, about three inches deep; it was taken from the shore in an undecayed state, and dripping with the salt water of the river. A cart load of ten or twelve bushels in its wet state (it is very heavy) was deposited at each angle or corner of a space of land five yards square; these bulks were spread inward of the square, until they met, and were equally diffused over the whole surface they

were intended for. When the whole space of ten acres was thus covered, it was immediately ploughed in, with the largest plough then in use among us: this was done in winter—the ensuing summer this field was planted with corn. The average product of it was three barrels per acre. The soil was light, some grit and some shell intermixed. The corn on the piece thus manured, took an earlier start in vegetation than the corn in the adjoining land, and throughout the summer preserved its superiority in colour and luxuriance. The product, (I write only from memory, having preserved no memoranda of any of my experiments) was, as well as I can now recollect, fifty-eight barrels of clean, sound, long corn.

Encouraged by this experiment, the ensuing spring I attempted one other with kelp. Four acres of land of the quality above described, were well covered in the manner above stated, and "turned in," and in March sown with oats, as was the surrounding land. The oats on the sea-weed land soon manifested a decided superiority, distinguishable by their increased height, and rich, deep green colour, which they maintained over the other oats until the period of ripening. The produce I cannot state, because not measured; as much of the crop was lost, by the falling or "lodging" of the oats, the consequence of their extreme luxuriance. If I mistake not, you, sir, were a witness of this experiment; you saw the oats in the month of May, and I remember the expression of your conviction of the value of kelp as a manure.

Not satisfied with these experiments, I proceeded to the trial of kelp as a manure for tobacco. A half acre of land, in a field of eight acres, was covered with kelp, solely; the rest of the field was well manured from cow pens and stables. At first, the plants in the hills of the part where the kelp was, appeared feeble, nor grew with the vigour of the plants around them. In June, a drought of three weeks' duration took place; when, to my astonishment and delight, I perceived these plants to become of good colour, shortly assuming a healthy dark green hue, and shooting forward during this dry spell of weather, they recovered from their inferiority, contending for mastery with the plants around them, which they soon acquired, and preserved. All the plants in the field were topped to ten leaves. The kelp land produced a dark strong tobacco—the rest of the lot was of a yellower cast, and milder when smoked. Never expecting to communicate this experiment, except orally to my friends, I have preserved no memoranda of weights or quantity. I am satisfied the weight was greater, in proportion to the number of plants, in the kelp than that of the other manured land.

These experiments of kelp as a manure for corn, oats and tobacco, leave with me no doubt that it will also be found beneficial to wheat, on a fallow. I shall proceed to this experiment in the course of the ensuing summer.

You will perceive, sir, that the experiments detailed above, were all made with the green and wet vegetable, yet fresh from the bed of the river. I have never used it, in a compost, nor in a decomposed state; but doubt not, its efficacy would be enhanced if decomposed before it is used as manure. The immediate operation of

the kelp, in its green and undecayed state, I have attributed to the muriate of soda it contains, and to the animal substances found intermixed with it; which are chiefly of that class usually denominated "nettles," which, being gelatinous, are speedily decomposed after inhumation. In all the experiments I have made with kelp, I have observed that the spot where the wet load was deposited, always produced a more luxuriant vegetation for the first year, than the other portion of land which was covered after the kelp had remained some days exposed to the rays of the sun, and consequent evaporation.

In some minor experiments with dry sea weed, I have found it not so immediately active as the green, and wet with our salt river water; which has induced me to suspect that our river water may be made a source of improvement to our husbandry, if used as a menstruum in composts. The kelp I have found to be longer in the process of decomposition than any other vegetable I have used. In the fields where I have used kelp, in 1811, 1812, I found many detached parcels of it yet unrotted the last year, (1817) when allowing for corn. Hence it would appear a durable manure, gradually yielding its fertilizing properties; nor did I perceive the crop on the land when last tilled, to be inferior to that which grew the year the "weed" was first applied. I have no doubt but that a compost of kelp and marl or any calcareous substance, laid in alternate strata of each, and the salt river water occasionally applied as a dissolvent, would produce a manure, equal, if not superior in value, to any now in use. To the husbandman of this section of the state, kelp is an easily attained, and, in my opinion, estimable manure. In the southern banks of this river, and the banks of the creeks which discharge their waters into it, vast bodies may almost say inexhaustible supplies of marl are to be found, which, when the industry of our agriculturists shall bring into use in the compost above suggested, will, I am certain, so far increase the fertility of the soil, as to check the tide of emigration, and dissipate the Alabama mania which now rages among our citizens. I shall proceed to other experiments, and on a different soil, with the kelp; and shall occasionally continue my communications, if the Society shall deem them worthy of their attention.

The agriculture of our country can only be improved by the dissemination of correct principles of the science and practice of husbandry; the experiments of skillful farmers; and improvement in implements of husbandry. Therefore, (I presume) some of the objects, which called your "Society" into existence

I fear, sir, I shall have trespassed upon the time and patience of the Society. If so, I "crave their mercy." If they shall find any useful matter contained in the present communication, I shall have attained the object I had in view when I commenced it, to afford my mite to the stock of agricultural information. I have been thus minute in detailing the experiments, and my observations growing out of them—that should any of my countrymen be disposed to use the kelp as manure, they may do so with the experience of which I am possessed; and should I by this communication induce a single person to an effort to improve his soil, I shall be amply rewarded. I have thought, (ever since I did think upon

the subject) with the celebrated "Dean of St. Patrick's" that he who makes two blades of grass grow where only one grew, is of more value to society, than all the politicians and statesmen of an age. Holding this faith, I tender to the "Agricultural Society of Virginia," the homage of my high respect for their characters, and the noble cause in which they are engaged: and to you, sir, the assurance of my esteem and friendship.

THOMAS GRIFFIN.

Dr. JOHN ADAMS, Secretary of the }
Agricultural Society of Virginia. }

TO THE EDITOR.

dated—York-Town, Virg. May 26th, 1819.

MY GOOD SIR,

Your polite favour of the 26th ultimo, was duly received; for which, and the several numbers of your valuable and interesting paper the ("American Farmer") which accompanied it, accept I pray you, my sincere thanks. Such publications as you are now engaged in, cannot fail to be beneficial to society, if the friends to agriculture, and the practical portion of our husbandmen, will communicate the results of their efforts, and experience. It is a melancholy truth, that the votaries of Ceres, have too long slumbered in the dormitory, of (at least apparent) indolence; certainly they have too long withheld from society, the light they might have afforded. The establishment of state agricultural societies, will probably arouse them from their sloth, and I hope, (with you) dissipate their reluctance to appear before the public. The state of, almost hopeless exhaustion, to which a continued series of bad husbandry, had nearly reduced a large portion of the country around me, had drawn my attention to the subject of manures, and particularly to the kelp or sea weed, with which, our rivers near the Chesapeake abound; my experiments exceeded my most sanguine expectations, and though I was aware, that the communications of them, to the Agricultural Society of Virginia, would be uninteresting to a large portion of the members; yet it might possibly find a way to that section of the state, where this manure could be procured, and thus my object be answered. The notice you have proposed to take of this communication, demands my acknowledgments.

I will now answer, as far as my experience will permit me, the queries contained in your letter.—1st, I have no data on which to form a decided opinion of the effects of gypsum on land, to which the kelp has been applied. I have hitherto made no experiments of the combined effects of these manures, but I am induced to believe, their agency would not be so beneficial; because the muriate of soda, we find in the seaweed, if brought into direct contact with the sulphate of lime, or plaster of paris; might by this direct combination, destroy the active properties of the gypsum, or plaster. 2dly, Nor can I think, that the kelp and plaster act in the same way; the active agent of the sea-weed, being the muriate of soda, with which it abounds particularly when fresh; that of the plaster of paris, being sulphate of lime. I am, sir, no chymist, and hazard the above opinions with much hesitation. 3dly, You inquire if plaster of paris, acts bene-

cially on our lands bordering on salt water. The experiments made with gypsum in this part of the state, have been few, and unmatured. I have myself made only one trial of it. We are much infested here, with a grass termed the "wire grass" and a vine bearing pea, called the "Patrick's pea." I had prepared a lot of ground for red clover; and the seed sown in the fall, rose well; the spring twelve months succeeding, I took off an early crop of hay, and plastered immediately one third of the lot. The plaster evinced no effect for some days, when suddenly the pea and "wire grass" were seen to rise luxuriantly, and both continued to grow to the entire destruction of the clover. When the pea came to maturity, and sunk after seeding, the wire grass continued to increase; the clover disappeared. Hence it would appear, that plaster of paris is a beneficial agent, in the production of grasses on lands bordering on salt water rivers; for though, in the experiment above cited, I lost my clover, yet an ample crop of other grasses succeeded, which viewed as manures would have been equally valuable; the quantity, not species of vegetable only, being the desideratum among farmers, who raise grasses for live, or green manures.

You are pleased sir, to request, to be furnished with "notes of any other particulars which subsequent experience" may enable me to make. I am fond of gardening, and frequently amuse myself in personally assisting in this culture, which if not extended, so far as to produce fatigue, I have found, conducive to my health. The last summer I made a horticultural experiment of the sea-weed as a manure for the potato, (*solanum tuberosum*.) I planted twenty hills with potatoes, with the sea-weed at the bottom; which weed had previously passed through my stables, as litter for my horses. Twenty hills more, were planted with the kelp, fresh from the river. Twenty other hills were planted, and the common cow-pen manure used, another twenty hills were planted with the ashes from a vessel, from which lie had been drawn. The livium had been drained from the ashes, some time, and the ashes were obliged to be pulverized, before application to the hill. They were (each parcel) cultivated in the same manner, and on the same soil, a light loam; the potato planted with the cow manure rose earlier, and maintained a superior luxuriance of top, or vine, over all the rest; the stalk of the potato, which had been manured with the kelp from the stable, presented a healthier appearance, in size, and colour, than either of the others; I carefully watched their growth, and when the stalk by its declining, or rather decay, evinced the time of maturity of the vegetable, I had the whole dug, and each separately measured. The product from the hills manured with kelp from the stable, was one fourth greater than either of the other parcels; the potatoes were considerably larger though fewer in number; and when dressed for the table, were dryer (or as it is commonly termed, more mealy) than those taken from either of the other hills. In number (not in size) the cow-penned hills far exceeded. The produce from the hills where the other manures were used, was large and nearly equal. I thus found by this small experiment, that either of these manures were valuable in the culture of the potato, but especially the kelp;

which had passed through the stable; and I have been enabled to account for the superiority of the kelp from the stable, only from the combined effects of the salt or muriate of soda which the sea-weed contains, and the volatile salts and nitre which it had imbibed while in the stable, which appear to have had an early, and active effect upon the weed; as, when the potatoes were dug, a much less quantity was found of this weed, than in the hills where the wet weed from the river had been deposited, and consequently a greater decomposition of the vegetable matter had taken place. I am satisfied that the kelp passing through a stable, or farm pen, will be found an invaluable manure, for all grain crops, as well as bulbous rooted vegetables; and with this manure, I should be much disposed to contest the palm for the *Solanum Tuberosum*, with the wonderful *Ruta Baga*, as food, of greater nutrition for man, as well as animals. The effects of the sea-weed will be felt, as long after it has passed through the farm pen, as if it were applied to the soil fresh from the river; but where it abounds as much as it does on the shores of the Chesapeake, and her tributary streams, no difficulty can arise in continually procuring a successive supply; and the farmer whose industry shall lead him to the use of this weed will, I am sure, soon find himself amply remunerated for his labour, and encouraged to persevere in its use—I should certainly prefer its passage through a farm pen; an earlier effect will be the one consequence; and imbibing active agents from the animal fæces, will be another; thus increasing its value, as an active pabulum for vegetable productions.

I fear, sir, I shall have transgressed, by this prolix communication. Soon after I received your letter, I was called from home upon necessary business, which has been the cause of delay, in answering it; and which I hope will be deemed sufficiently exculpatory of me, from the charge of designed neglect. Prior to the reception of your letter, I had procured some plaster of Paris for the purposes of experiment. I have been recently engaged in some experiments with sea-weed, plaster, unslacked lime, and marl, differently united, and applied; these have been, upon the present growing crop of corn; as yet no effects are visible; if any valuable, should arise (if desired) they will be communicated. I lament that you have thought it necessary to apologise. As members of the same great family, we are bound to afford any light or information we may possess, to each other, and to the community, by which its prosperity may be advanced. My feeble aid shall not be withheld.

Be pleased to accept the assurances of respect, of sir, your humble servant,

TH. GRIFFIN.

J. S. SKINNER, Esq.

FOR THE AMERICAN FARMER.

DOMESTIC MANUFACTURES.

No 3.

The practicability of success, in Domestic Manufactures, has been thought doubtful, on account of a supposed *scarcity of hands* in the United States.

In comparing the population of the country, with the quantity and quality of its lands, every one must acknowledge, that there is room enough to admit of a great increase of husbandmen, not only for the settlement of places entirely uncultivated, but also for the good culture of those already settled. But cannot manufactures flourish in the United States, until there shall not be found in the wide waste, between the Atlantic, and the Pacific, a single spot capable of admitting an additional cultivator? Who dare say, that millions of civilized people will relapse to the savage state of the Indians of the forests, and wear the unmanufactured skins of wild beasts? And yet such must be the case, unless somebody can divine the ways and means of paying foreigners for cotton, woollen, and linen goods, enough to satisfy their demand, in a state of civilization and taste for dress.

There can be no difficulty in procuring hands, notwithstanding the facility of entering upon agricultural pursuits.

In the great mass of population, there is no inconsiderable number of persons, incapable of performing the labours in agriculture, and yet capable of rendering essential services in various departments of manufactures. Women, children, of both sexes, and men rendered infirm by age or other causes might be found, in numbers, sufficient to perform a large part of the manual labour requisite in manufacturing cotton, wool, and flax; while necessity, humanity or custom, would exclude them from agricultural employments. More than one half of the persons, employed in the cotton factories of Great Britain, are women and children. And here we cannot but remark, that this peculiar attribute of manufactures, is alone, on the principal of economy, sufficient to balance all objections, that can be made to the policy of encouraging them. How important it is to furnish a very useful employment to a vast number of individuals, who, without it, must live in idleness and mischief, devouring the fruits of industry, and corrupting the morals of society! At the low wages of fifty dollars per annum, the annual value of one million of persons would be fifty millions of dollars; a sum equal to above half of the national debt!

Machinery might be more extensively used in the United States than in any other country in the world. It would be attended with the greatest possible advantage without the least disadvantage. If there be a *scarcity of hands*, it would supply the want of them; and there could be no workmen thrown out of employment by the introduction and use of it—none to suffer and growl for being deprived of the means of subsistence. The streams, in every state, and in almost every county in the Union, abound with powerful water falls. The country affords an abundance of wood, coal, and other combustible materials, necessary for the production of steam. Machines, used as extensively as they might be, would almost entirely supercede the necessity of any manual labour, except that which women and children are adequate to perform. It should be considered, that the mechanic powers would be a vast capital to the nation. For while they would consume neither meat, drink, nor clothing, they would perform the work of a vast number of hands. There was lately invented in France, a machine for shearing cloth, which

could daily accomplish the work of above eighty men. The shearers resisted its use, because it deprived them of the employment to which they were accustomed. What a capital thing would this machine be for the United States!

Foreigners would nearly or quite supply the requisite manual labour. We are told that 1800 are weekly landing on our shores, a majority of whom are probably mechanics of some kind, and many, especially of the English and Irish emigrants, are doubtless, spinners, weavers, clothiers, dyers, &c. We hear that multitudes are thrown out of employment in England, who, in spite of the restrictive law of non-expatriation, will find their way to the United States, even if they are obliged to come through France, as upwards of 500 lately did. They will cheerfully enter into factories if opportunity be offered them. The encouragement of Domestic Manufactures would not only give employment to foreigners compelled to seek an asylum in the United States, but would invite and draw hither men of skill and capital to add strength and beauty to the system. We have already many honourable examples of the success of foreigners engaged in the useful arts among us. The gentlemen Duponts, on the Brandywine, near Wilmington in Delaware, have rendered that stream as famous for its factories, as it is for the battles fought there by the heroes of the revolution. We need not look beyond our own city. Barker's foundry, in North Calvert Street, has been raised in a few years to its present state, by a foreigner, who came to this country penniless and friendless. A noble example of the prosperity of industry, honesty, and economy! We quote the following article, from Niles' Weekly Register, of Saturday 29th ult. "One of the largest factories, at Leeds, has recently been shut up, and several hundred hands, in consequence, turned out of employ. The proprietor is about to remove to the United States, to resume his labours on an extensive scale." Glorious news! Let him be received with a hearty welcome. Such an accession will be of more real service to the country, than all the banks it contains; more than even all the speeches of congress, during the last session.

In the cities and towns on the Atlantic, there are thousands who will be compelled to abandon their residence, unless they be furnished with some means of subsistence more than commerce, without manufactures, can afford. Many, having practised mechanic arts, would be better capable and more inclined to labour in the construction and management of manufacturing powers, than in the business of clearing and cultivating lands.

Some part of the United States are pretty thickly settled, and could spare from agricultural pursuits, many hands, who would rather engage in factories on the spot of their nativity, among their friends and relations, than go far from home, to cultivate the waste lands of the west.

Whatever charms there may be in rural scenes, it would seem, that they have not been hitherto irresistibly attractive. Our cities and towns have been filled with tradesmen and professional men; with no very bright prospects; while the productions of the soil bore a very high price. And what additional attractions will agriculture hold out to the lovers of grain, when wheat flour is

four or five dollars per barrel, corn meal at about forty or fifty cents a bushel, cotton at twelve or fifteen cents a pound, and other articles at the same rate; with no prospect of better prices. Under such circumstances, it seems by no means impossible, that even *cultivators* should turn their hands to manufactures.

OPIFICI AMICUS.

THE MURRIAN,

A DISEASE INCIDENT TO HORNED CATTLE.

N^O. III.

TO THE EDITOR OF THE AMERICAN FARMER.

SIR—Having stated summarily my impressions of the cause, character and treatment of the obstructed bowels, in the cattle of Pennsylvania I will now trouble you with those of what the Murrian really is, and some explanatory remarks. The term Murrian, if its history is looked over in connexion with that of epidemics among black cattle, will perhaps be found applicable to them only in a low form of fever, with strong tendency to inflammation and mortification in various vital organs, the bowels especially, and not properly referable to any local or casual disease. The Pennsylvania disease not being epidemic, the application of the term Murrian to it, is falling in with the practical misuse of that term.

A disease frequent among cattle in England called Foul Water, appears similar to that of the Pennsylvania disease. Dr. Darwin, referring to it as notorious, without describing it in his *Zoönomia*, class i. ii. 1, 7, under the head *Hamorrhagicæ Renum*, says, "Cows are subject to bloody urine, called foul water, by the farmers; in this disease 60 grains of opium, with or without as much rust of iron, given twice a day in a ball mixed with flour and water, or warm ale, are I believe, an efficacious remedy, to which however, should be added, two quarts of barley or oats twice a day, and a cover at night, if the weather be cold;" evidently considering it a local disease arising from some specific cause, which he does not intimate, and prescribing a remedy, which I have suggested as applicable to its last stage, and in which stage only he may have considered or administered it, in consequence of the early symptoms having been overlooked, as must often occur in brute animal diseases. Under the head *Pestis* or *Plague*, class, ii. 1, 3, 13, Dr. Darwin notices what is no doubt the true epidemic Murrian, as follows:

The *pestis vaccina*, or disease amongst the cows, which afflicted this island about half a century ago, seems to have been a contagious fever, with great arterial debility; as in some of them, in the latter stage of the disease, an emphysema could often be felt in some parts, which evinced a considerable progress of gangrene beneath the skin. In the sensitive irritated fevers of these animals, I suppose about sixty grains of opium, with two ounces of extract of oak-bark, every six hours, would supply them with an efficacious medicine; to which might be added thirty grains of vitriol of iron, if any tendency to bloody urine should appear to which this animal is liable. The method of preventing the infection from spreading, if it should ever again find access to

this island would be immediately to obtain an order from government to prevent any cattle from being removed which were found within five miles of the place, supposed to be infected, for a few days; till the certainty of the existence of the pestilence could be ascertained, by a committee of medical people. As soon as this was ascertained, all the cattle within five miles of the place should be immediately slaughtered, and consumed within the circumscribed district; and their hides put into lime-water, before proper inspectors.

Larrey's Memoirs, by Dr. Hall, vol. ii. p. 85, gives the history of a similar epidemic in Italy, in 1793, sweeping as it were in a torrent through the whole brute creation of the country. In it, obstructed bowels was a leading symptom and the yielding of them on the third day, attended by cutaneous perspiration was always favourable, while on the contrary, under continued obstruction "the abdomen became inflated, the hair dry and stiff, and easily disengaged by the fingers; the strength failed; the ears became withered and pendant. Cutaneous perspiration ceased, the breath grew fetid, respiration difficult, the animal tottered, and if it fell, had not power to rise. Sometimes at this second period, the intestines relaxed spontaneously, for the copious discharge of a black fetid excrement. To this succeeded an almost constant dysenteric flux of blackish, bloody matter, equally fetid; the debility increased, and the animal died. Malignant tumors appeared sometimes on cows, near the udder." Bleeding early was useful, and if delayed, proved very injurious. Other correct histories might be adduced, exhibiting the same character and course of disease, while numerous writers are found even of some repute, describing badly, and treating worse, these and other diseases confusedly as Murrian, under the titles Murrian in the guts, in the throat, in hog, dry Murrian, &c. The above references and explanations may tend in some degree to show what the Murrian really is, and what it may be readily mistaken for, and thereby lead to correct present mistakes and to encounter future evils. I am not aware, that such a disease ever has or can prevail in America, but comparing our climate with those congenial to it, such an event would not be deemed impossible, and could not fail to prove vastly calamitous in the present crude state of our knowledge of these matters. Every climate, however, has its epidemics, and in the present state of general science, it is certainly a deep opprobrium to any civilized country to be unacquainted with those at least, which belong to it. The Murrian, as here viewed, has been generally described as possessing a peculiarity almost sufficient to characterize it, viz. invading almost indiscriminately all orders of animals, contrary to the general principle, that each race, has at least its peculiar epidemic diseases—but the existence of such a peculiarity, may well be questioned, not only on account of its deviation from the general law, but in the facts that the specific structure, habits and susceptibilities of each race, precludes such a pervading influence, and that if it did not, the same causes so diversely applied must necessarily produce different effects or forms of disease. This character in the constitution of different

kinds of animals, goes so far, that numerous agents, deadly poisonous to some, are nutritive to others, as the water hemlock, to cows and goats, &c. See Anderson's Agriculture, vol. ii. p. 36.

A universal mortality then cannot well be ascribed to a specific cause and may be otherwise accounted for. Under these circumstances, it seems strange, that Dr. Darwin should class a "*Pestis Vaccina*" murrian or plague in cattle, under the head "*Pestis*" or plague in the human species, especially as the region of the Nile, the nest and nursery of the plague, is so fabulously prolific, of brute animals as to have ascribed to its waters fecundating properties. That Larrey should consider the human species susceptible of brute animal contagion in Italy, notoriously the elysium of human health, and a Pandora box to that of the brutes—or that our Dr. Rush should identify the yellow water of horses with bilious remittents, when the marshes, the factory, and reservoir of them, habitually provide luxuriant bed and board for the beast. And may not the father of poetry have displayed more science in it, than skill in surgery, when he consolidated the brute and human diseases of the Grecian camp into one epidemic, seeing that in fact all climates, in their influences on health, are universally favourable to them. How else could it happen, that through the long annals of the world, and black catalogue of epidemics, a common mortality should rarely concur in them; that even when human havoc was so wide and so awful—

"That o'er the friendless bier no rites were read.
"No dirge slow chanted, and no pall outspread."

Still every creeping thing should pass the fiery ordeal unhurt. The simple cause seems to be that luxuriant vegetation, and the seasons which cause it are conducive to the health of brutes, and destructive to that of man.

BALTIMORE:

FRIDAY, JUNE 11, 1819.

INTERESTING EXTRACTS.

Roman Agriculture—Gibbin; Athenian Agriculture—Abbe Barthelemy; American Agriculture—Governor Clinton.

It has been the misfortune of our country to look upon Agriculture as a grovelling, vulgar pursuit. Thus men of fortune have devoted their best educated children, to what are emphatically termed, the "*Learned Professions*," leaving to the most neglected and illiterate, the cares and the interests of husbandry. Fortunately for the reputation, not to say the salvation of the republic, we begin to form a more just estimate of the dignity and the rational and varied delights of agriculture. We begin to see, that the most beautiful and enlightening sciences are connected with, and necessary to, the successful operations of the plough and the pruning hook. If there be any, who, entertaining false estimates of its true character, as a science, still refuse to educate their sons with a view to the pursuits of agriculture, as an honourable and elegant voca-

tion, we would recommend to their perusal, the following extracts, to show, that some of the greatest and most eloquent historians and statesmen, in different ages and countries, have not thought the subject unworthy of their attention; and to show that such inquiries are not incompatible with splendid proficiency in other branches of knowledge.

EXTRACT NO. I....Gibbon.

"Whatever evils either reason or declamation have imputed to extensive empire, the power of Rome was attended with some beneficial consequences to mankind; and the same freedom of intercourse which extended the vices, diffused likewise the improvements, of social life.

In the more remote ages of antiquity, the world was unequally divided. The east was in the immemorial possession of arts and luxury; whilst the west was inhabited by rude and warlike barbarians, who either disdained agriculture, or to whom it was totally unknown. Under the protection of an established government, the productions of happier climates, and the industry of more civilized nations, were gradually introduced into the western countries of Europe, and the natives were encouraged by an open and profitable commerce, to multiply the former, as well as to improve the latter. It would be almost impossible to enumerate all the articles, either of the animal or the vegetable reign, which were successively imported into Europe, from Asia and Egypt; but it will not be unworthy of the dignity, and much less of the utility, of an historical work, slightly to touch on a few of the principal heads. 1. Almost all the flowers, the herbs, and the fruits, that grow in European gardens, are of foreign extraction, which, in many cases, is betrayed even by their names: the apple was a native of Italy, and when the Romans had tasted the richer flavour of the apricot, the peach, the pomegranate, the citron, and the orange, they contented themselves with applying to all these new fruits the common denomination of apple, discriminating them from each other by the additional epithet of their country. In the time of Homer, the vine grew wild in the island of Sicily, and most probably in the adjacent continent; but it was not improved by the skill, nor did it afford a liquor grateful to the taste of the savage inhabitants. A thousand years afterwards, Italy could boast, that of the fore-score most generous and celebrated wines, more than two-thirds were produced from her soil. The blessing was soon communicated to the Narbonnese province of Gaul; but so intense was the cold to the north of the Cevennes, that in the time of Strabo, it was thought impossible to ripen the grapes in those parts of Gaul. This difficulty, however, was gradually vanquished; and there is some reason to believe, that the vineyards of Burgundy are as old as the age of the Antonines. The olive, in the western world, followed the progress of peace, of which it was considered as the symbol. Two centuries after the foundation of Rome, both Italy and Africa were strangers to that useful plant; it was naturalized in those countries; and at length carried into the heart of Spain and Gaul. The timid errors of the ancients, that it required a certain degree of heat, and could only flourish in the

neighbourhood of the sea, were insensibly exploded by industry and experience. The cultivation of flax was transported from Egypt to Gaul, and enriched the whole country, however it might impoverish the particular lands on which it was sown. The use of artificial grasses became familiar to the farmers both of Italy and the provinces particularly the Lucerne, which derived its name and origin from Media. The assured supply of wholesome and plentiful food for the cattle during winter, multiplied the number of the flocks and herds, which in their turn contributed to the fertility of the soil. To all these improvements may be added an assiduous attention to mines and fisheries, which, by employing a multitude of laborious hands, serve to increase the pleasures of the rich, and the subsistence of the poor. The elegant treatise of Columella describes the advanced state of the Spanish husbandry, under the reign of Tiberius, and it may be observed, that those famines which so frequently afflicted the infant republic, were seldom or never experienced by the extensive empire of Rome. The accidental scarcity, in any single province, was immediately relieved by the plenty of its more fortunate neighbours.

Agriculture is the foundation of manufactures, since the productions of nature are the materials of art. Under the Roman empire, the labour of an industrious and ingenious people was variously, but incessantly employed, in the service of the rich. In their dress, their table, their houses and their furniture, the favourites of fortune united every refinement of convenience, of elegance, and of splendour, whatever could soothe their pride, or gratify their sensuality. Such refinements, under the odious name of luxury, have been arraigned by the moralists of every age, and it might perhaps be more conducive to the virtue, as well as happiness of mankind, if all possessed the necessities, and none the superfluities of life. But in the present imperfect condition of society, luxury, though it may proceed from vice or folly, seems to be the only means that can correct the unequal distribution of property. The diligent mechanic, and the skilful artist, who have obtained no share in the division of the earth, receive a voluntary tax from the possessors of land; and the latter are prompted, by a sense of interest, to improve those estates, with whose produce they may purchase additional pleasure. This operation, the particular effects of which are felt in every society, acted with much more diffusive energy in the Roman world. The provinces would soon have been exhausted of their wealth, if the manufactures and commerce of luxury had not insensibly restored to the industrious subjects, the sums which were exacted from them by the arms and authority of Rome. As long as the circulation was confined within the bounds of the empire, it impressed the political machine with a new degree of activity, and its consequences, sometimes beneficial, could never become pernicious."

TO CORRESPONDENTS.

We are truly gratified in acknowledging the receipt of several very interesting, and as we think, very valuable communications on the leading subjects of our paper. Amongst others,

one from FRISBY TILGHMAN, Esq. of Washington County, with whose name and place of abode, the idea of rich land and skilful farming is always associated. His communication was made at our particular request, and gives a minute account of the produce of his farm, and the precise course of its cultivation.

We are favoured also, under a late request, by that veteran patriot, JAMES H. McCULLOCH, the Collector of this Port, with a communication of his experience, as to the cultivation, qualities and value, of several kinds of artificial grasses; and

We are very much pleased, in giving notice of the receipt of No. 1, of a promised series of essays, on the raising of hedges, or *live fences*.

Agricola will accept our sincere acknowledgments, for taking up the subject of the state of Agriculture, in the lower counties of Maryland. The theme is a fruitful one, and we are glad to find it in such competent hands—though we could not have supposed the writer could have found leisure, in the midst of professional business, to investigate this interesting subject so thoroughly, as he seems to have done.

Present Prices of Country Produce,

IN THE BALTIMORE MARKET.

Tobacco.—Since the old crop was sold off, after the war, there has never been, at one time, as much tobacco for sale in this market.—The mention of this fact, with a few actual sales within the last week, giving *names and places*, will enable the planter to form an idea of the state of the market.—As to speculating about the state of the market in Europe;—the present posture and future prospect of affairs in our own country; the causes of our embarrassments, and the probability and means of relief—with a view to sagely predicting whether the article is likely to rise or fall, we beg leave to be excused.—We have not the mercantile capacity, or experience, for it. A thousand shrewd prophecies might be made, by the speculator, to show that it *would fall*; and the Planter may fancy as many reasons why it may be expected to *rise*. Our province is with *facts*, diligently collected, and honestly detailed.

The fine yellow *Tobacco*, of Frederick County, which has been selling for \$18, may be quoted at \$12.—Some *Tobacco* made on the estate of the late *Lloyd Dorsey*, on E k Ridge, sold yesterday morning, for 5 a \$7.—1 Crop Tobacco, 3 hogsheads, from Mrs. *Reynolds'* Calvert County, sold for 7 a \$8; some made by *B. Essex*, same County, for 5 5-8, second; and \$7 5-8 crop.

Virginia *Tobacco*, sold by *J. P. Pleasants & Son*, middling quality, \$7—first quality, \$8-50.

Corn 50 cts.—Wheat \$1 12 1-2—Rye 55, a 70—Oats 50—Eggs, per doz. 18 cts.—Butter, per lb. 31.—Beef, best butcher's, 12 1-2—Mutton, 6 a 8—Veal, per quarter, from the wagons, 1 25 a \$1 50—Potatoes, retail, \$1 per bushel—Green Peas, per peck, 25—Hay and Straw, each 16 a \$18—Herrings, per barrel, \$3, a little more than the cost of barrel and salt. Wool Cards, 62 1-2—Cotton do. 62 1-2 a 75.

BALTIMORE, PUBLISHED BY J. S. SKINNER.

.. AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

VOL. 1.

BALTIMORE, FRIDAY, JUNE 18, 1819.

NUM. 12.

AGRICULTURE.

From the Memoirs of the Philadelphia Agricultural Society.

Notices for a Young Farmer,

Particularly one on Worn Lands, &c. &c.

WITH NOTES BY THE EDITOR OF THE FARMER.

[Continued from No. 11, page 84.]

Steeps. Mildew and Smut. Stunted or Sedge Wheat.

XV. STEEPS are highly recommended, as guards against the maladies of grain; and for invigorating the first efforts of the plant. The *Flemish* steep of blue vitriol, or copperas, is said to destroy the parasitical plant adhering to the seed, and deemed the cause of *mildew* and *smut*. See Sir J. Sinclair's Tour through Flanders, 1815. But this, or any other, does not always succeed; and smutty grain washed in pure water, is often rendered fit for sowing, without danger of a smutty crop. There are so many, and so various opinions, on the causes of mildew and smut, that it is difficult to form a decisive conclusion. See, (among others,) 2d vol. Philadelphia Memoirs, 164, and in the 14th vol. of the Bath Society Papers, 54, &c. See article 3d, in which there is an ingenious and elaborate discussion on the diseases of *wheat*. Good farming, and well manured ground, so as to ripen the grain early, seem to be the best securities. *Spring wheat* most commonly escapes mildew and smut; and there are kinds quite as good as winter grain. Such should be sought for, and cultivated. In England, and other parts of Europe, and in the northern parts of our country, summer wheat is raised to great advantage. Whether or not it would escape the *fly* is doubtful; for flies have been found in plenty in summer barley. (a)

(a) To determine the goodness of seeds, the weighing a given measure of them may generally be esteemed a criterion; as it is known, that when seeds are put into cold water, those which are less perfect are liable to swim, and the sound ones to sink; thus the imperfect seeds of rye-grass and of clover may be detected by throwing a spoonful of them into water; but the seeds of rye-grass are said to be frequently adulterated by a mixture of the seeds of twitch or dog's grass, which can only be discovered by an experienced eye. This even is said to be a test of the goodness of malt; as those grains which are not perfectly germinated, will swim with one end upwards, I suppose the root end; and those which are perfectly germinated swim on their side, whilst the sound ungerminated barley sinks in water.

It is therefore a proper criterion of good seed-wheat

It is not yet agreed, what kinds of *wheat* best withstand injury from the *Hessian Fly*. The yellow bearded and other wheats with solid straw, or strong stems, (the solid stemmed wheats being designated by the appellation of *cane* or *conewheats*) are deemed the most efficacious. Farmers should bend their sedulous attention to the selections of such wheats. Good farming, manure, and reasonably late sowing, are certainly the best securities. But *too late* seeding is unsafe: for the spring-brood of flies attack the tender plants of very late sown wheat, not sufficient-

to cast it into salt and water, just so saline as to float an egg; as the more salt is dissolved in the water, the heavier it becomes; and hence none but quite sound grains of wheat will sink in this brine: and that which swims is properly rejected. This rejection of the light grains by steeping wheat in brine is probably of greater consequence to the ensuing crop, than the adhesion of any salt to the grain, which has been believed to destroy the eggs of insects supposed to adhere to it, or to fertilize the soil.

The weight of a given measure of corn will also with considerable certainty discover the quantity of husk or bran contained in it, compared to the quantity of flour; as that grain, which is cut too early, or which is otherwise not quite ripe, as happens in wet seasons, shrinks in the barn or granary, and becomes wrinkled, and has thus a greater proportion of skin or bran, than that which has been more perfectly ripened, and will hence weigh lighter in proportion.

A test of this kind may enable us to determine whether peas and beans, or oats, are preferable in respect to economy as provender for horses. A strike or bushel of oats weighs perhaps forty pounds, and a strike or bushel of peas and beans perhaps fifty pounds; and as the skin of the peas and beans is much less in quantity than that of oats, I suppose there may be at least fifteen pounds of flour more in a strike of peas and beans than in a strike of oats. There is also reason to believe that the flour of beans is more nutritive than that of oats, as appears in the fattening of hogs; whence according to the respective prices of these two articles I suspect, that peas and beans generally supply a cheaper provender for horses than oats, as well as for other domestic animals.

But as the flour of peas and beans is more oily, I believe, than that of oats, it may in general be somewhat more difficult of digestion; hence when a horse has taken a stomach full of peas and beans alone, he may be less active for an hour or two, as his strength will be more employed in the digestion of them, than when he has taken a stomach full of oats. According to the experiment of a German physician, who gave to two dogs, which had been kept a day fasting, a large quantity of flesh-food; and then taken one of them into the fields, he hunted him with great activity for three or four hours, and left the other by the fire. An emetic was then given to each of them, and the food of the sleeping dog was found perfectly digested, whilst that of the hunted one had undergone but little alteration.

Hence it may be found advisable to mix bran of wheat with the peas and beans, a food of less nutriment, but of easier digestion; or to let the horses eat before or after them the coarse tussocks of sour grass, which remain in moist pastures in the winter, or lastly, to mix finely cut straw with them.—*Darwin's Phytology*.

ly forward to be capable of resisting the like destructive effect, we experience in spring barley; appearing to prefer, for this purpose, plants in the early stages of their growth. It is, most probably, a native here. It never entirely leaves us; though it appears, at irregular periods, in numbers less scourging than at times when its ravages are more conspicuously destructive. It seems to make movements of its main body from North and East, (where it was first perceived,) to South; leaving always on its march, detachments or stragglers, sufficiently monitory to keep us on our guard. Its name does not prove its importation, for that appellation was bestowed during our revolutionary excitements, when every thing we disliked was termed *Hessian*. Entomologists class it among the *Tipulæ*, whereof there are more than 120 varieties. In *Hesse*, they have net this vermin, to annoy their crops. (b)

Steeping your seed wheat, is attended with little trouble or expense; and is assuredly, worth the trial, as it has so many, and such respectable, advocates. Avoid, however, steeps too strong, as they sometimes prevent the seed shooting; or produce a premature and sickly germination,

(b) Since the above was in type, a scientific description of the *Hessian fly*, and of a parasitic insect which feeds on it, has appeared. It is written by Mr Thomas Say; and is published in the third number of the Journal of the Academy of Natural Sciences of Philadelphia. He has given the insect the name of *Cecidomyia Destructor*; and considers it specifically distinct from the *Tipule tritici* of Kirby, and entirely unknown in Europe. Mr. Say describes the parasitic insect in the *larvæ* of the *Hessian fly*, scientifically. Its length, one tenth of an inch.—He styles it the *Ceraphron*, and classes it with the tribe of insects called *Ichneumons*. It deposits, according to the manner of its tribe, its eggs in the bodies of *larvæ*, (caterpillars,) and becomes perfect by the destruction of the *larvæ* of the *Hessian fly*, "Protected by this undurated covering, the parasite undergoes its change, and appears in the perfect state, about the latter end of June. It seems probable that this insect prevents the total loss of our wheat crops, by restraining the increase of the *cecidomyia*, within certain bounds." He says it is often mistaken for the *Hessian fly*, by those who see it evolve from the pupa of that fly. And flights of the *Ceraphron* are erroneously taken for *Hessian flies*.

The *Ichneumons* are nature's scavenger's, destined to destroy the vermin which would otherwise overrun the earth. They breed in caterpillars, corn grubs, and other such reptiles, which perish in myriads, in consequence. When they are perceived coming out of the *larvæ* of other insects, it is inconsiderately alleged, that the corn-grubs, &c. turn into flies. It would be desirable that some naturalists would discover the parent of the *corn-grub*; there being no absolutely certain, but many various opinions on that subject.

It is said that a parasitic insect is found in the incisions made by locusts in the branches of trees. No doubt an *Ichneumon*, placed there for the destruction of the eggs of the locusts, to prevent their unbounded increase.

especially if the seed be not well rinsed or washed. You need be at no loss for a choice, as so many receipts are to be found in books of agricultural authority, for steeps of various compositions.

The stunted or sedge wheat, may, possibly, be the consequence of good grain being infected by disease, or infested by insects. It would be worth the experiment, to try the effects of steeps. Changing the seed, to a kind entirely different from that usually sown, has been found to be a guard against this serious and increasing evil. Lime, and strong lime water, often have beneficial effects on diseased seed wheat.

Carefulness in raising and expending Food for Farm Stock, recommended; and modes of treating several kinds of food and provender. Chaffing Hay, Straw, &c. Steaming Potatoes. Scarcity Root. Boiling or scalding Provender. Culture of Potatoes previously to a Wheat crop; different opinions concerning it. Potatoes said to grow best on boggy grounds. Veterinary knowledge, Weights and Measures, their uses even in the orderly and more beneficially feeding of stock.

XVI. Be particularly careful in expending, as you should be provident in raising, every species of PROVENDER for your stock of horses, cattle, and sheep. A variety of food, and an orderly distribution of it, are more promotive of health and vigour in your domestic animals, than a lavish expenditure of any one species. Such as require previous preparation, should have it bestowed, both for profit and economy. Cut or CHAFF your hay, straw, corn tops and blades, and even your stalks, with a powerful *Straw Cutter*, and you will save a great proportion, which is otherwise wasted, or passed through the animal, without contributing to its nourishment. One bushel of chaffed hay at a mess, given in a trough, three times in twenty-four hours, is sufficient for a horse, ox or cow. A bushel of chaffed hay, lightly pressed, weighs from 5 to 5½ pounds. A horse, or horned beast, thrives more on 15 lbs. thus given, than on 24 or 25 lbs. as commonly expended, (including waste,) in the usual mode of feeding in racks; to which troughs, properly constructed, are far preferable. This practice has been now fairly tested by experience; and the result accurately proved. This, and other great improvements in feeding their domestic animals, have been forced on the people of Europe by necessity. Salt your clover and other succulent food, as well as coarse hay. But over salting diminishes the nutriment. More than a peck to a ton is superfluous. Half that quantity is often sufficient. Ten or fifteen pounds is usually an ample allowance. *Steaming Potatoes* has been long practised. *Boiling or scalding* provender commonly given dry, is found to be highly beneficial. The *Turnip* culture, on an extensive scale, succeeds better there, than it does among us. The *Scarcity root* is there cultivated extensively, for dairy cows and ewes in milk; also for fattening cattle, with oil cake, occasionally, as a change. It supplies succulent food, in the season when such food is the most scarce. This root thrives well in our country, and should be more generally attended to, for swine and cattle particularly. For the latter, it is important at all seasons; its leaves in summer being as val-

uable as its roots in winter or spring. *Carrots* may also be profitably cultivated. They are not only highly nutritious, but preventives against some diseases, and remedies for others. (asthmatic maladies particularly.) in horses or cattle. High prices, and scarcity of bread stuffs, will compel us to imitate European examples, in substituting esculent roots for grain, in feeding our live stock. Of *Potatoes* we know so much, both as to their culture and uses, that it seems unnecessary to mention what is commonly practised. It has been the opinion of many, for a long time past, that they are exhausting; and that unless additional manure is bestowed on the land on which *wheat* is to follow them, the wheat crop will not be abundant. This opinion is not confined to our country. Many believe potatoes are best in dry soils; yet it is ascertained by an intelligent writer, in England, (see Bath Papers, vol. 14, page 147.) after actual experiment for 16 years, that "potatoes will never be mealy, if not grown in tolerably moist ground;" and a drained boggy earth is preferred to all others. In this kind of earth, the *Irish* potatoes are generally cultivated. It is fortunate, that this root will grow in almost any kind of soil, and the advocates for different opinions may respectively indulge in taking their own course. Potatoes are generally planted too late. Early planting admits of the crop being gathered in time for sowing wheat, by those approving that practice. Contrary to common opinion, it is now said by some practical agriculturists, that young, or unripe seed potatoes, are most productive.

Teach yourself by reading and observation, at least the outlines of VETERINARY KNOWLEDGE; and promote its encouragement. This will instruct you in the best and most wholesome modes of feeding, as well as administering innocent preventives and remedies. Do not depend on charlatans, or servants, for what a little attention on your part might avoid or remedy. Never neglect frequent visits to your farm yard and stables. Good servants are encouraged, and bad ones detected, by such attentions to your own affairs.

Keeping accurate and lawful WEIGHTS AND MEASURES, is not only demanded by integrity in dealing, but it teaches a habit of looking into the minute details of your affairs, highly conducive to profit and economy. When this habit is fixed, you will do nothing at random; but symmetry and calculation will appear in all your concerns; and success will generally crown endeavours planned agreeably to well ascertained data, and not undertaken with thoughtless conjecture and hazardous guess-work. Feeding your stock by weight and measure of food, will not only save your provender, by its orderly distribution, but, frequently, the lives of animals, too often starved by niggardliness or neglect, or gorged and destroyed by profusion. If it be true, as it is, that "the master's eye makes the horse fat;" it is equally so, that the master's eye prevents the horse from being pampered, wanton, pensive, bloated, foundered, and finally, wind-broken and blind.

When any of your live stock die of disease, or invisible casualty, have them opened, for discovery of the cause, and future instruction.

Feeding, in stalls, or pens, on green forage, which is called SOILING, has not been sufficiently

practised here, for us to form a decisive opinion of its practicability and preference, under our circumstances. It has been favourably represented by some who have tried it; and it merits farther experiment. If proper preparation be made, so that a certain succession of green food could be ensured; the practice, in many situations where labour is at command, and draughts do not interrupt the supplies, appears highly commendable, on the score of saving our summer food, by expending it at our pleasure, in place of suffering cattle, at their will, carelessly to browse over and waste much pasture. It saves the expense of enclosures, which, in our mode of dividing farms, are essential in our present arrangements, and very costly, it adds to our stores, of manure, which can be applied in a less advanced state of fermentation; the seeds of weeds and coarse grasses having been prevented from ripening and increasing, by the frequent application of the scythe. In England, and in other parts of Europe, they grow the *Chicory*, very profitably, for soiling, and make use of the spring and winter *Fetch*. No extensive experiments have been made here, in the culture of these plants; and it would be desirable, that some spirited agriculturist would give them a fair trial. Instruction in their cultivation, can be readily obtained, by consulting British and other publications on the subject.

If cattle or sheep are penned, the pens should be frequently moved; and the dung of the cattle composted. They should not be placed in declining situations, from whence the dung and urine are wastefully washed away. Moveable pens for sheep, have great advantages. They are safe (in proper pens) from dogs; and their dung fertilizes beyond any other. If for health and convenience they must range in the day, penning at nights, unless flocked (and well guarded) on an extensive scale, is essentially necessary. Multiply your pens, rather than crowd too many in one fold. Be not sparing of a reasonable allowance of salt, to your domestic animals of every description. Some prefer rock salt for sheep to lick at their pleasure.

(To be continued.)

Agricultural Letters to the Editor.

Rockland, Washington Co. June 1, 1819.

Dear Sir,

I should have made my acknowledgments for your late friendly communication, and replied sooner to your letter, but for a lame hand which deprived me of the use of my pen. I feel sensible that every aid should be rendered by the agricultural part of the community, in not only disseminating your truly useful paper, but also by furnishing remarks which may have a tendency to throw light on the subject. In complying with your request, to give a statement of the product of the farm I reside on, I am induced, by a desire to gratify you, and with a hope that others may be led to offer suggestions and experiments more useful; confident, that with proper management and more personal attention, my own may be greatly surpassed.

The farm contains, by actual measurement, two hundred and sixty acres, including wood land, roads, homestead and waste ground. Every field and lot on the farm is accurately surveyed.

which I deem absolutely necessary, for I suffer me to remark, that though I have often heard of fields producing 40 or 50 bushels of wheat to the acre, I have never, from twenty years' experience, been able to exceed thirty bushels per acre, from a field of 36 acres, though my neighbours have in some instances given me as high as 40. I am led therefore, to believe, that those who are particular in surveying their fields and ascertaining accurately the number of bushels per acre, have never, from a field of 40 acres made 35 bushels per acre. The cleared land on my farm, is divided, and cultivated in the following manner:—I have 7 fields of 27 acres each, on paper, (the fences will take off a little) and 5 lots of different sizes, from $1\frac{1}{2}$ to 7 acres, the 5 lots together making 25 acres, including the grounds about my house. Two of the above fields are cultivated annually, in wheat, clover hay; one field in corn, one half of a field in rye, and one half in oats; this takes 4 of the 7 fields, and leaves me three fields in clover, for pasture. My wood land is enclosed separately, which makes a fourth pasture field, until harvest. My 5 lots furnish my hay. Oats and rye, always succeed corn, and my fields of small grain, are sown with clover, every spring. This has been my general plan for 7 or 8 years. I have the present year commenced a different course, by keeping up one of my clover fields for soiling. This mode I always highly approved, though I could not prevail on myself to make the experiment. We farmers, my dear sir, are too much wedded to old established systems, and frequently pursue them in direct opposition to our better judgment. So far, my trial leads me to rejoice at the change, and I am fully convinced, that one of my fields of 27 acres, well set with clover, will soil 19 head of steers, afford me two acres for ruta bage, 1 acre for potatoes, and leave me 8 or 10 acres of clover, to cut for hay. Such is my present impression. In preparing my corn ground, it is well ploughed in the fall, and harrowed the same way we plough it. In the month of March or April following, all the manure I collect on my farm, is put on my corn ground, the manure is ploughed under, as fast as carried out, and the ground then harrowed, after which it is laid off for planting, by a single furrow four feet each way. My time of planting is between the 1st and 12th of May. So soon as the corn is up, I run a fallow harrow over the rows of corn, and my hands with small rakes dress the hills of corn. I then sprinkle about a teaspoonful of plaster on each hill; the plough is then used, throwing the furrow from the corn, my rakes still employed to uncover the corn, and our next process is to return the furrow to the corn and plough out the middles. When the corn is about knee high, we add half a bushel of plaster to the acre, in broad cast; a double shovel plough, or a small harrow will then be sufficient to keep the ground in order. I pay very great attention to my farm yard, which is dug out, sloping from the outer edges to the centre, and forms a basin of about 4 or 5 feet deep in the centre, which retains the water. In taking out my manure, my hands begin on one side of the farm yard and with grubbing hoes, made very sharp, and about 6 inches wide, the manure is cut through to the bottom; the corn stalks, &c. thus cut, (6 or 8 inches in length) are easily managed, and without

difficulty turned under by the plough. We also, by this mode, avoid exposing too large a surface of the manure, the bad effects of which must be obvious to every farmer, in the smallest degree conversant with the subject. In cutting the manure and loading the wagons, the collection of water from the manure, is sometimes so great, as to render it necessary for my hands to use planks to stand on, in order to keep themselves dry. The manure, thus completely saturated, with the water dripping from the wagons, when loaded, is in a fine state to plough under. So soon as my farm yard is cleared of manure in the spring of the year, I commence making my crop of manure, for the succeeding year, by drawing into the yard, the corn stalks left the preceding winter; my cattle, are still kept in the yard, where they remain until the middle of May, and are fed on the balance of wheat straw, which is carefully preserved for them, and thus by a good foundation against the month of November following, at which period my stock cattle, purchased during the months of September and October, are brought into the farm yard, to remain until spring; at the same time, I begin to draw in my corn stalks, on which and my wheat straw, the cattle are supported during the winter. By this mode, I take out every spring, from my farm yard, from 250 to 300 large wagon loads of good manure, in a nice state for my corn ground. This dressing each field, receives once in 7 years, which with plaster and clover, I find sufficient. But if soiling will answer my present expectations, my quantity of manure will be greatly increased, as my cattle are still in my farm yard, never having been out, except to water, since last fall, nor will they leave it, until ready for the butcher, which, from present appearances, will be by the 1st of August. My farm yard is 100 feet long, by 60 feet wide, and enclosed on three sides, generally with a shed.

The product of the above farm* on an average, is

1100	do.	Corn,
400	do.	Oats,
300	do.	Rye,
7000	wt.	Pork,
20	head	grass fed Beef,
Between 2 and 300	head	of Sheep kept,
I winter about 40	head	black cattle,
15	do.	Horses,

and have always an abundance of provender.

My horses, milch cows, work oxen, and sheep, have hay and corn fodder; my stock cattle, live on wheat straw and what they pick from the corn stalks, when brought into the farm yard.

Respectfully, your most obedient,

F. TILGHMAN.

* I can give you assurances, that the average is a low one.

WHEAT OF MAY.

TO THE EDITOR OF THE AMERICAN FARMER.

Observing in your paper of the 4th inst. the description of a kind of wheat, called "*Wheat of May*," said to have been brought from Egypt originally, and for some years past cultivated in Belgium, I have no reason to doubt the fact. Yet, I think it nothing foreign from the subject,

to let the farmers know, that this same species of wheat has been cultivated in some part of Delaware and Pennsylvania, many years back. My reason for saying the same, is from the description being so *minutely* the character, of what I with many others cultivated, about the year 1785, and from that till 1793 or 94. My last experiment settled my opinion decidedly on its merits. When first introduced, I had a beautiful little crop in a part of the same field sown with winter wheat; on moderately elevated ground, it ripened kindly, with a bright straw. The other characteristic description is well given in your paper, as translated from the French author, the time of maturing, exactly the same. The French author speaks of the flour being darker than the autumnal kind; I may add the reason why it is so, having long been accustomed to grinding grain. The outer coat, that appears bran when ground, is not so adhesive, and will not bear the operation of the mill stones, without crumbling in a pulverized state, and becomes so mixed with the flour in grinding, that the loaf when baked, has a yellow rich looking brown cast, although it is a good wholesome bread. The refuse bolted out, instead of bran, is more like what the millers call ship-stuff, but of a more sandy consistence; the flour also, more of the lively feel; it grinds more like barley, after being hulled or divested of the outer coat, (previous to grinding) the bran of which is very much the same.

Now as to the value of the grain. At the time of its introduction into my neighbourhood, it was thought a valuable acquisition, as settlers moving to the new countries, might obtain a crop in about three months after sowing, rather than wait nine months for the return from the winter grain; this gave it a credit, together with the advantage of supplying the place of a winter crop, being killed by severity of the season; some ground could be sown with the spring wheat, as it was then called. I sowed several years, with different success, the winter wheat became also very difficult to raise, from various causes. The insect, or Hessian fly, attacked the winter crop in 1791, and almost wholly destroyed the wheat, with us that year; the year following I procured one bushel of seed of the spring wheat, having not raised any the year before, the seed cost two dollars; I sowed a piece of the best of my barley ground, and put all in the same day. My barley produced from 20 to 25 bushels, to the bushel sown; my wheat, I think, if my recollection is correct, produced about four bushels, and that very light and shrivelled; barley that year, sold at 1 dollar 25 cents per bushel; wheat I do not recollect the price, but one thing I recollect, that my calculation brought out a loss on the side of the wheat, of from 15 to 18 dollars, by sowing the bushel of wheat, instead of barley. From thence forward, I never had an inclination to cultivate any more, and I found a corresponding sentiment prevailing amongst all who had cultivated the spring wheat. My impression is, that it was generally better the first year or two, but from the abandonment of it, I am led to believe, that I was not alone unsuccessful.

The description given by the late publication is so *exactly* the same, as my recollection brings into view, the growth, the *beard*, and *every part*, that I have no hesitation in saying, it is the *May Wheat* alluded to. The *beard* was very much

like our present red chaff bearded winter wheat, which is, according to my observation, the best for flour of any bearded grain, ever introduced. My opinion has generally settled into a belief, that a beard, on any kind of grain, does not indicate the fairest product of flour, but the contrary: and as I have touched the subject, perhaps it may bring out some observations on that head, from the experienced; yet as there are other considerations which come into the view of the cultivator, the fairness, is more the consideration of the miller.

Respectfully, from

CALEB KIRK.

Brandywine, 8th 6th mo. 1819.

Irrigation—the Work of Maypu.

In our last, we referred to the Report of T. Bland, Esq. respecting Chile, to show how well the benefits of irrigation are understood, and of what vast importance it is to the agriculture of that country: and we took occasion to mention the great *Work of Maypu*, constructed by the native Indians, but had not room to insert the following description of it, which we find in page 95 of his Report:—

“The nineteenth item is for defraying the expense of completing the valuable work or canal of Maypu. I have before described the vast importance of water to the valleys of Chile, south of the Maule; some of which cannot be watered at all by any artificial means, others have not an abundant supply; and in none is the water so carefully and judiciously distributed as it ought to be. One of the most valuable and interesting of the remaining monuments of Indian ingenuity and improvement in that country, is the Salta del Agua, about five miles to the north east of the city of Santiago, where a great part of the river Mapocho, on which the city stands, is brought by means of a canal, through a gap in the ridge which terminates at, and immediately overlooks the city. From this gap standing on the margin of the Indian canal, and nearly on a level with the valley behind, you have under your view a part of the city, and the fairest portion of the valley of Santiago. The water, on passing the gap, is, one part of it, made to wind along the mountain side, to the north, another to pass along to the south, and the surplus is suffered to leap immediately down its steep side, from eight hundred to a thousand feet almost perpendicular; whence the work takes its name, of the leap of the water. The water of the southern canal turns a grist mill on its way down; and all, after reaching the plain, is poured over it in many directions, so as to irrigate the various vineyards, quintas, gardens, and farms, which are thus rendered astonishingly fruitful. The Spaniards say, that the Salta del Agua remains now as the savages left it, more than two centuries and a half ago, without any alteration, and with little repairs. The river Mapocho, a part of whose waters had been thus turned in so useful a direction by the Indians, after passing the city of Santiago, crosses the valley in an easterly direction; then pursuing its course south along the foot of the opposite ridge, sinks under it, and rising again near Francisco del Monte, hurries into the Maypu, which it finds above Melipilla, after that

river had taken leave of the principal cordillera about twenty miles south of Santiago, and made its way directly east over the valley. Between these two rivers, on a dry swell of the plain, about ten miles south-east of Santiago, the famous battle of Maypu was fought. And this portion of the plain lays so high, for many thousands of acres in extent, that it could not be watered from the small canals of the Mapocho; and, therefore, was only used as pasture ground. It is intended, by the work of Maypu, to bring the waters of that river along the foot of the mountain in a canal, terminating at the Mapocho above the city of Santiago, so as to water and render fit for cultivation, all these plains, which, anciently as well as lately, have been so celebrated. Such are the works of a people, whether of aboriginal, or of foreign descent, who really own a country, and govern and manage it for themselves. The nature of the two last items of expenditure in this account, need no explanation.

A Method of taking the Honey without destroying the Bees.

The common practice of killing the bees, in order to obtain the honey, few can witness without some little compunction; and as there is a very simple method of effecting the object, without any injury to this most interesting little animal, which, on the score of interest, as well as humanity, claims regard, I beg leave to communicate it through your paper, should you deem it worthy a place in it.

In the evening, when the bees have retired, take the hive gently from its stand, and having spread a table cloth on the ground, set the hive on it, placing something under to raise it three or four inches—then draw up the corners of the cloth and fasten them tight around the middle of the hive, leaving it so loose below, that the bees will have sufficient room to remain between it and the hive—then raise the lid of the hive a little and blow in the smoke from a cigar, a few puffs of which, as it is very disagreeable, will drive them down; continue raising the lid gradually, blowing in the smoke all around, and in a few minutes it will be found that they have all gone out of the hive. You may then take off the lid and cut away as much of the honey as you think proper. If the operation be performed in the beginning of July, you may take nearly all, as there will be time enough to provide a sufficiency for their support during the winter. As soon as you have taken the honey, put on the lid, loosen the cloth and spread it out, and in an hour or two the bees will have returned into the hive. It may then be replaced on the stand, and on the following day they will be found at work as usual.

This method is very simple, and preferable to that sometimes practised of driving the bees into another hive, as you get all the honey, and moreover the new comb which is still empty, and the young bees not yet out of the cells are preserved: there is also danger in driving, of their not liking their new habitation, and in that case of sallying out and making war upon their neighbours. The above method has frequently been practiced by myself and others, and have always found it to do well.

AMATOR MELLIS.

Washington, June 8, 1819.

Interesting Extracts.

(CONTINUED.)

No. 2.—*Athenian Agriculture—Abbe Barthélemy's Travels of Anacharsis*

“I had often passed a considerable time in different country houses, and had frequently traversed Attica. I shall here collect the principal remarks which I made during these excursions.

The fields are separated from each other by hedges or by walls. By a wise regulation observed in Attica, such lands as are mortgaged for the repayment of money are pointed out by small columns bearing an inscription which records the obligations contracted with a creditor. Similar columns placed before the houses that are pledged in like manner make them known to every one, and the lender need be under no fear that he should be injured by any secret contracts.

The possessor of a field may not dig a well, or build a house, or a wall in it, except at a certain distance prescribed by law, from the field of his neighbour: neither is he permitted to turn aside the waters which descend from the hills that surround his land, over his neighbour's ground; but he may turn them into the public road, and the proprietors of the adjacent fields must find their lands from them. In certain places the rain water is received in canals, which convey it to a great distance.

Apollodorus had a considerable estate near Eleusis, to which he took me with him. The fields were covered with ripened corn, and slaves reaping it with the sickle, while young children gathered the falling ears, and gave them to those who bound them up in sheaves.

They had begun their work at the dawn of day, and the whole family shared in these rural labours. In a corner of the field, beneath the shade of a great tree, some men were preparing the provisions; women were boiling lentils, and pouring meal into vessels full of boiling water, for the dinner of the reapers, who animated each other to their labour by songs with which the fields resounded.

O bounteous Ceres! with indulgent smile,
Survey and prosper this our rustic toil:
Ye joyous reapers, clear the yellow plain,
And to the north expose the swelling grain.
The lark awakes: your sharpen'd sickles wield,
Nor quit, till he retires to rest, the field.

Other couplets expressed an envy of the happy condition of the frog, who has always plenty of drink; in others, jokes were passed on the management of the inspector of the slaves, and the workmen advised to tread the corn at noon, because then the grain may be more easily separated from the husks in which it is enclosed.

The sheaves, when conveyed to the threshing-floor, are disposed circularly and in layers. One of the labourers places himself in the middle of them, holding in one hand a whip, and in the other a bridle, with which he guides the oxen, horses, or mules, which he makes to walk, or trot, round him. Some of his companions turn the straw, and place it under the feet of the animals, till it is entirely broken; others throw handfuls into the air, when a brisk gale, which commonly rises about that time, wafts the chaff to a little distance, while the grain falls directly down and is gathered up and put into earthen vessels.

Some months after, we again visited the farm of Apollodorus. The vintagers were gathering the grapes from the vines, which were supported by props. Boys and girls filled wicker baskets with them, and carried them to the wine-press. Before they are pressed, some farmers cause vine branches loaded with grapes to be brought home. They expose them to the sun for ten days, and keep them in the shade for five days more.

Some keep their wine in casks, other in leather bottles, or in earthen vessels.

While the vintage was pressing, we heard with much pleasure the songs of the wine-press; for so they

are called. We had also heard others during the dinners of the vintagers, and in the different intervals of the day, which were accompanied with dancing.

The harvest and the vintage conclude with festivals celebrated with all those rapid emotions of mirth which plenty produces, and which are diversified according to the nature of the object. Corn being considered as the bounty of a goddess who has provided for our necessities, and wine as the gift of a god solicitous to increase our pleasures, the gratitude manifested to Ceres exhibits itself in a lively but decently tempered joy, while that to Bacchus riots in all the transports of delirium.

Sacrifices are likewise offered in seed-time and hay-harvest. At the season for gathering olives and other fruits, they also present on the altar the first they gather, as gifts received from heaven.—The Greeks have felt that on these occasions the heart should expand, and pay grateful homage to the authors of the benefits bestowed on man.

Besides these general festivals, each town and district of Attica has its particular ones; in which, though there is less magnificence, there is more mirth, for the inhabitants of the country are unacquainted with fictitious joy. Their whole soul manifests itself without disguise in the rustic shows and innocent games which assemble them together. I have frequently seen a number of them collected round some leathern bottles, filled with wine, and oiled on the outside; young persons hopped over these bottles, and, by their frequent falls, occasioned loud laughter among the by-standers.—Close to these were children jumping after each other on one leg; others playing at even or odd, and others at blind-man's buff. Sometimes a line drawn on the ground divided them into two parties, and they played at day or night.* The party which had lost ran away, and the others pursued them to overtake and make them prisoners. These amusements are only in use among the children in the city, but in the country, grown persons do not blush to join in them.

Euthymenes, one of our friends had always relied for the management of his affairs in the country on the vigilance and fidelity of a slave whom he had placed over the others. Convinced, at length, that the eye of a master is much more discerning than that of a steward, he determined to retire to his country house, situate in the village or borough of Acharnæ, at the distance of sixty stadia from Athens.†

We paid him a visit there some years after.—His health which had formerly been in a declining state, was re-established. His wife and children partook and increased his happiness. Our life, said he to us, is active, but not agitated; we are unacquainted with disgust or weariness, and we enjoy without alloy the felicity of the present moment.

He showed us his house, which had not long been built. It fronted the south, that it might receive the warmth of the sun in winter, and be defended from its heat in summer, when that luminary has attained his greatest elevation. The apartment of the woman was separated from that of the men by baths, which prevented any communication between the slaves of different sexes. Each room was adapted to the purpose for which it was designed. The corn was kept in a dry place, and the wine in a cool one. The furniture was not rich and sumptuous, but the utmost neatness was every where conspicuous. Garlands, and incense for sacrifices, habits of ceremony for the festivals, armour and military dresses, garments for the different seasons, kitchen utensils, instruments to grind wheat, vessels in which to knead dough, and provisions for the whole year, and each month in particular, all were found with facility, because all were in their proper places, and orderly arranged. The inhabitants of the city, said Euthymenes, would treat this methodical exactness with contempt; they are ignorant how much time is

saved by it in looking for things, and that a husbandman ought to be as great an economist of his time as of his money.

I have set over my house, added he, an intelligent and active woman. After being satisfied that her manners were unexceptionable, I gave her an exact inventory of all the things committed to her care. And how, said I, do you recompense her services? By esteem and confidence, answered he. Since she has been entrusted with every secret of our affairs, they have become her own. We pay the same attention to those of our slaves who show zeal and fidelity in our service. They have better shoes, and are better clothed. These little distinctions render them sensible to honour, and retain them in their duty more effectually than the fear of punishment. My wife and myself have divided between us the care and management of our affairs. She regulates all the household concerns, and I inspect whatever is done without doors. I have undertaken to cultivate and improve the lands, which I have inherited from my ancestors. Laodice takes account of what is received and expended, and of the storing and distributing of the corn, wine, oil, and fruits, which are delivered to her care. She also maintains order among our domesticks, sending some to the field and distributing to others wool, which she teaches them to prepare and make into clothing. Her example lightens their labours: and when they are sick, her attentions and mine alleviate their sufferings. We compassionate the condition of our slaves, and are ever ready to allow that they have numerous claims to our gratitude.

After having crossed a court-yard full of fowls, ducks, and other domestic birds, we visited the stables, sheep-folds, and likewise the flower-garden; in which we saw successively bloom, narcissuses, hyacinths, irises, violets of different colours, roses of various species, and all kinds of odoriferous plants. You cannot be surprised, said my friend, at the care with which I cultivate flowers: you know that with them we adorn the temples, altars, and statues of our gods; that we wear crowns of them at our entertainments, and the celebration of our sacred rites, that we strew them on our tables and our beds; and that we even offer to the divinities those which we esteem most grateful to them. A husbandman, besides, ought not to neglect the smaller profits.—Every time I send wood, charcoal, fruits, or other commodities, to the market of Athens, I always add to these some baskets of flowers, which are sure to find a speedy sale.

Euthymenes afterwards conducted us to his farm, which is more than forty stadia in circuit,* and from which he had obtained the preceding year above a thousand medimni of barley, and eight hundred measures of wine. He had six beasts of burden, which every day carried to market wood and other commodities, and brought him in twelve drachmas daily. (a) As he complained that inundations frequent-

(a) On the produce of an Athenian farm.—Demosthenes mentions a private person of Athens, named Phœnippus, who having obtained the quantity of barley and wine stated in the text, sold each medimnus of barley for eighteen drachmas [16 liv. 4 sols, or 13s. 6d. or \$3] and each metretres of wine for twelve drachmas [10 liv. 16 sols, or 9s. or \$2.] but as he afterwards says, that these prices, perhaps on the account of some scarcity were triple the ordinary value of the commodities, it follows, that in his time, the common price of the medimnus of barley was six drachmas, and that of the metretres of wine four drachmas. A thousand medimni of barley [a little more than four thousand bushels] were therefore worth six thousand drachmas [540 liv. or 225/ or 1000] and eight hundred metretres of wine, 3 thousand 2 hundred drachmas [2880 liv. or 100/ or \$333]; total, 8280 liv. or 345/ or \$1533.

Phœnippus had besides six beasts of burden which were continually employed in carrying to the city wood and other kinds of materials, and which brought him daily twelve drachmas [10 liv. 16 sols,

ly carried away his crops, we asked him why he had not removed to a part of the country less subject to such accidents. Advantageous exchanges have often been proposed to me, answered he, and you shall see why I have not accepted them. He immediately opened the door of a small enclosure, in which we found a plot of grass surrounded with cypress trees. Here, said he, are the tombs of my family. There, beneath these puppies, I saw the grave dug in which the remains of my father are deposited.—By the side of it, is that of my mother. I sometimes come hither to converse with them, and imagine that I see and hear them. No; never will I leave this sacred spot. My son, said he afterwards, turning to a little boy who followed us, when I am dead, lay me beside my parents; and when you have the misfortune to lose your mother, place her next to me. Remember it is my command. His son promised not to neglect what he had enjoined him, and burst into tears.

The borough of Acharnæ is full of vineyards, and the whole country of Attica covered with olive trees, which are more carefully cultivated there than any other kind of tree. Euthymenes had planted a great number of them, especially along the roads which bordered his farm. He allowed the space of nine feet between each, because he knew that their roots will extend to a considerable distance. No person is permitted to root up on his grounds more than two olive trees in a year, unless it be for some use authorised by religion. He who violates this law is condemned to pay for each tree a hundred drachms to the informer, and another hundred to the public treasury, a tenth of which is deducted for the treasury of Minerva.

We frequently find clusters of olive-trees left in reserve, and surrounded by a hedge. These do not appertain to the owner of the field, but to the temple of the above-mentioned goddess. They are farmed out, and their produce is entirely set apart for the maintenance of her worship. If the proprietor of the land should cut down a single tree, even though it should be only a barren trunk, he would be punished with banishment and confiscation of his goods. The Arcopagus takes cognizance of all offences relative to the different kinds of olive-trees, and from time to time sends inspectors to watch over their preservation.

Continuing our walk, we were passed by a numerous flock of sheep, preceded and followed by dogs kept to drive away the wolves. A covering of skin was wrapped round each sheep. This practice, which has been borrowed from the Megareans, defends the wool from the filth which might otherwise defile it, and prevents it from being torn by the hedges. I know not whether it contributes to render the wool finer, but I can affirm that the wool of Attica is extremely fine. I should add likewise, that the art of dyeing has there been brought to such perfection, that the colours it gives to it are never effaced.

I learned on this occasion that sheep grow the fatter the more they drink; and that to excite their thirst, salt is often mixed with what they eat; and that in summer especially, a certain measure of it, that is a medimnus* for each hundred sheep, is distributed among them every fifth day. I was likewise told that, when they are thus made to eat salt, they give more milk.

At the foot of a small eminence which bounded a meadow, we saw a number of bee-hives surrounded with rosemary and broom. Observe, said Eu-

or 9s. or \$2.] The festivals, bad weather, or work that might not be neglected, frequently interrupted this little traffic; but if we suppose that it only took place for two hundred days in the year, we shall find that Phœnippus annually received a profit of 2160 liv. [90/ or \$400] which, added to the 2280 livres [435/ or \$1933] for the produce of a little more than a league and a half in circuit.

* This game resembles that of cross or pile.

† About two leagues and a quarter.

* About a league and a half.

* About four bushels.

thymenes with what industrious alacrity the bees execute the commands of their queen; for she it is who, not suffering them to remain idle, sends them into this beautiful meadow to collect the rich materials, the use of which she regulates; she it is who superintends the construction of the cells and the education of the young bees, which, when they are capable of providing for their subsistence, she forms into a swarm, and obliges to leave their home under the conduct of a bee which she has chosen. (b)

Further on, between the hills enriched with vine yards, we came to a plain where we saw yokes of oxen, some of which drew tumbrils of dung, while others harnessed to the plough, laboriously traced the lengthened furrow. I shall sow barley here, said Euthymenes, for that is the kind of grain which succeeds best in Attica. The wheat we grow here affords indeed a bread very agreeable to the taste, but it is less nutritive than that of Bœotia; and it has been more than once remarked, that the Bœotian athlete while they reside at Athens, consume two fifths more of wheat than in their own country; yet is that country contiguous to ours; so true it is, that a little thing suffices to alter the influence of climate. As another proof of this, it may be remarked, that the Isle of Salamis is close to Attica, yet grain ripens there much sooner than with us.

The discourse of Euthymenes and the objects by which I was surrounded, began to engage my attention. I already perceived that the science of agriculture was not founded merely on blind custom, but on a long series of observations. It appears, said our guide, that we formerly received the principles of this art from the Egyptians, and that we communicated them to the other nations of Greece, the greater part of whom, in gratitude for so great a benefit, bring us every year the first fruits of their harvests. I know that other Grecian cities make the same pretensions with ourselves; but to what purpose would it be to discuss their claims? The most necessary arts have had their birth among the most ancient nations, and their origin is the more illustrious as it is more obscure.

That of husbandry, when transmitted to the Greeks, became improved by experience; and a number of writers have employed themselves to collect its precepts. Several celebrated philosophers, as Democritus, Archytas, and Epicharmus, have left us useful instructions on the subject of rustic labours, and many ages before them they had been sung by Hesiod in one of his poems; but a husbandman ought not to abide so implicitly by their precepts as never to dare to interrogate nature, and make new experiments. If then, replied I, I had a field to cultivate, it would not be sufficient to consult the authors you have mentioned? No, answered my friend, they give many excellent directions but such as are not suitable to every soil and every climate.

[To be continued.]

CULTIVATION OF ARTIFICIAL GRASSES

TO THE EDITOR OF THE AMERICAN FARMER.

SIR—I am very sensible of the useful objects of your present publication, and the meritorious endeavours to excite our farmers to new considerations in their agricultural plans, to an enlargement of their views, an apprehension of principles and modes of

cultivation, as well as to bring into their sight, many articles of growth suited to their soils, and valuable as the supports of animals, whom no system of husbandry can omit in its calculations.

You have the honour of being the first in our country, who alone, unaided, at your own risk, have commenced and devoted a periodical paper to the subjects connected with rural affairs and economy, almost exclusively; and that in the midst of engagements which seemed sufficient to damp a considerable zeal in the undertaking. You seem to think, that I could furnish something to this, from my small stock of experience. But as my zeal is more passive, it suits me better, like many others, to receive the lessons of attentive and intelligent men, than to communicate from myself. For this there are better reasons than a selfish love of ease or indifference to the general welfare; and which will easier appear, than those for my entering publicly on the subject. However I have received great pleasure from your publication, and owe any return that may be acceptable.

A commendous system of husbandry would require a volume. And volumes have been written, doubt with much advantage; though the system has never been perfected, the reading also was confined to few, but the practice thus excited, was visible to many and engaged them to follow when successful. Thus a thousand circles of improvement were formed, until a whole population were brought into a course of superior cultivation, which they consider at present as their own, and from which they are not likely to go back, though they are ignorant that it was derived from books and reading. That is from the records of practice and observation of the most skillful. England has especially improved under these means, as a freer press distributed wider information there, than through the silent countries of the neighbouring continent. But the greatest success followed the publications of certain societies, which were easier circulated, and of a form to engage the reading; consisting of short plain essays, reports of experiments, and statements of expenses and profits. But if this has been the case among the poorish peasantry of Europe, tenants or vassals of the farm; how much is to be expected from the intelligent farmers of America, who own the land they cultivate, and are in the habit of reading public papers very generally. There is however, one disadvantage in this; being much at their ease, they are apt to be careless of improvement, which must be obtained by greater exertions of thought and industry.

As the manure heap lies at the foundation of good husbandry, it is necessary to consider how this may be made as large as possible. For a great superstructure cannot be raised on a narrow bottom. The crop, with equal culture, will be in proportion to the manure laid under it.

The stock of every kind should be kept in their yards as much as their healthy preservation will allow. They should of course be fed there instead of running out, as they mostly do, night and day, as long and longer than they can find pasture. For this purpose suitable grasses must be sown, and kept to now all summer. It is in vain to say this is troublesome and expensive; for without it nothing can be had, and without a good deal, nothing considerable. But a man thus employed, saves his own wages, and enables the ploughman to earn more also; who too often drives a profitless plough for want of some trouble, and prudent expense before hand.

There are several grasses recommended for feeding green, or curing for winter food, beside roots, &c.

Clover, considered in all its beneficial effects, extending to successive grain crops, appears to be the first of grasses. It is the most succulent and richest plant known for the purpose; suited to horses, cattle, hogs, and serving in less quantity. Indeed, from its richness it is necessary to give less than of other grasses; a quality that has been strangely perverted to a fault, because it injures when overeaten, the consequence of intemperate use of every rich and

luscious article of diet. It is easier raised where plaster can be used, than any other vegetable; and has done wonders, thus on poor soils and exhausted fields. If the land is but dry, it will thrive in either light or heavy soils, with suitable culture. It seems to preserve a greater measure of moisture to the ground under it, and by its substantial roots as well as succulent leaves and stalks, produces that improvement which has become so visible in the use of clover lays for other crops. It is one of the advantages of deep ploughing, with this as well as other plants, that it is less likely to be heaved out of the ground by frosts, when it has an open under soil to shoot its long sap root into. It is so well known that nothing need be said of the benefit it yields to a succeeding crop of wheat. The second mowing is perhaps best reserved for seed, as it often occasions a running at the mouth of the creatures who eat it. When it does this with horses, it is folly to give it to cows, who require the best food, if it is expected that they shall yield milk and butter. They will not slobber with it as horses do, but they will no more thrive on it than these who are thus considered as their betters. If not saved for seed, it will answer for litter, and the straw it may be substituted for, will sell as well, or do less harm in feeding; at any rate they had better be mixed.

Lucerne is the next grass for large produce, and first of all for green cutting. It is not to be recommended for hay, for it loses too much in curing. Its value for summer feeding is enough. It is generally fit to mow about the end of April, a fortnight sooner than any other grass, and will yield in good ground four cuttings in the season. Its excellence for feeding appears in never blowing or mowing like clover, and being acceptable to all creatures, except in solitary instances. It is apt in the hottest weather, to grow yellow and appear sickly; but when cut, it puts out again fresh and green, continuing till severe frosts occur.

The soil suited to it, is a dry, sound earth; if rich and mellow the better, but it will do in middling ground, and lasts eight or ten years if kept clean, with a slight manuring of rotten dung, every second year. It sends very long large roots to a great depth in the earth; the natural supports of such a vigorous vegetation. But it requires this depth of dry soil, as it is said to rot if the roots strike into water.

To save it from the encroachment of common grasses, which no finer crop can endure, it is best cultivated in drills; as in this situation the hoe, spade or small scarifying barrow may be employed to destroy any other growth. But unless this care can be taken, it had better been sown broadcast; as it will maintain itself longer when it fills the ground at first, than when intervals are left for the wild grass to possess and spread from. The broadcast will also have the advantage in produce, for two or three years, and it may be slightly cleared and assisted by harrowing it in the spring and after cutting? for it is so firmly fixed in the ground, that every thing else will be eradicated before it.

The ground being well prepared, and made perfectly clean, the preceding autumn, should be again stirred and harrowed till fine in the spring. To sow it in drills at two feet distance, which is the best, a piece of wood six or eight inches thick, six feet long, bored at each end and every two feet distance, with a wooden peg of the size of a harrow tooth driven through each hole, so as to trace a furrow an inch or so, in the earth, and lifted with two poles as shafts, will mark at once four drills of that depth, and may be drawn by a man over the ground with ease.

The seed should be sown about as thick as clover seed, and rather exceeding than falling short, that no gaps may be in the drills which cannot be easily filled by after sowing; or it may be raised in seed beds, and transplanted into rows very well. In this way it may serve for edgings to gardens, and will supply a cow perhaps through the summer.

The earliest season in spring should be taken for sowing, and all other grass should be picked out as it appears. The Lucerne will scarce afford a crop the

(b) On the Queen Bee.—It appears, by the passage of Xenophon, quoted in the text, that the author considered the principal bee as a female. Naturalists afterwards were divided in this subject: some imagining that all the bees were females, and all the drones males—and others maintaining the contrary. Aristotle, who refutes their opinions, admitted in each hive a class of kings which continued their species: he confesses however, that sufficient observations to determine any thing with certainty, had not been made, and naturalists have returned to the opinion which I attribute to Xenophon.

first year, the growth being then very slender, yet it may be cut without injury, and something obtained.

In a communication to the English Board of Agriculture, vol. 6, part 1st, the products of several grasses are stated as follows:—

Clover and rye grass, mixed, yielded nine tons per acre, at the first crop—six tons at the second. Lucerne, six tons first crop, five the second, four the third, and two tons the fourth of green food. The land described as poor clay, with a hard cinder under stratum top dressed with coal ashes, street rakings, sea sand, &c. A little more than half an acre with me, has constantly kept two cows, and two horses, from the last of April to October; feeding morning and evening; the cows turned out in the day to graze in the lanes and commons; the horses furnished with a portion of hay and green clover, while cutting that crop. When at work, the horses have besides, a little grain, and are kept sufficiently well.

Timothy is a grass well known among us: it yields one heavy crop in a year, and lasts eight or ten years in suitable soils. A rich moist land, is its proper station, though it grows well in any good land free from surface water. The ease with which it is cured into hay, and the little trouble in its cultivation, recommend it very generally. It has the farther recommendation to those who sell hay, that it sells well, being suited to the use of inns and livery stables, and in repute with stage proprietors, &c. for road horses. But when it is preferred to clover and richer grasses, it is upon no better grounds, than that poor dry food will not surfeit or foulder; the same reason would give the straw a preference to the grain. Timothy has a dry hollow stalk, with thin blades, and never hurts what feeds on it. But it needs an auxiliary in grain or meal, to keep them in good condition.

The best time to cut it, as has been said, is just as the flower withers, earlier or later mowing being unfavourable to its continuance.

Timothy may be successfully sown in the fall to bring in a crop of clover afterwards, in place of oats or barley. A crop of hay is thus gained without the loss of a season, little inferior in value to these grains, and will not hurt the ground so much. This is my practice, grass only being the object: the clover sown either with the timothy in the fall, or on it in the spring, will, in the second year, fill the field, and together make the heaviest swathe of choicest hay.

Orchard grass is an early grower and makes a large appearance; but it is neither in weight or quality equal to the foregoing. Yet it is entitled to a place in pasture grounds, or to a lot by itself for early mowing. When suffered to get full ripe, it is not well relished by the creatures it is designed for, and therefore goes very much into the liver.

My experience of Trefoil and Saint Foin has determined to me, that the first, with no peculiar advantage, is inferior to red clover, in quality. And the latter is not suited to our climate, being unable to endure the sun of our summers. It is much esteemed in Europe as making excellent hay, but, is there appropriated, chiefly to chalky and rocky ground, and succeeds in a cooler climate, though the crop is not large.

There are some plants also, of the leguminous kinds or pulse species, which may be profitably brought into use. Of these, the best, as far as a little experience instructs the writer, is the winter Tare. This article may be put into any good ground, that cannot be occupied with a crop on long growth without interfering with the plans of the cultivator. Sown on such pieces of land as would otherwise lie naked and unproductive, in the fall, it will afford a mowable crop in the beginning of the following summer, which may be taken off in time for late potatoes, ruta бага, or any thing to be sown after the middle of June. Beside the advantage of a covering crop, instead of leaving a soil bare to the injury of long droughts in autumn, to the frosts and winds of winter; a quantity of excellent food is obtained, fitted to use green, or cured into hay, for both cattle and

horses. In feeding green, or sowing, as the uncouth phrase is amongst the English, it is only necessary to take the same precautions with red clover; to feed sparingly, or to let them lie when cut till they are a little withered, when the danger of blowing or hoving is lessened.

The seed at present must be imported, for it is not known where it has been used, except in one spot at this place. It requires about two, or two and a half bushels for seeding an acre, as all mowable crops should be thick set. The price is about \$2 50 per bushel, or 10s. 6d. to 11s. 6d. sterling, in England; much the same in Holland.

Vetches are a similar article, but much inferior. The spring vetches, especially, are quite insignificant as a crop for the sythe; though sown thick, they protect the soil, and contribute to it when ploughed in.

By the use of these, and perhaps some other grasses, the land itself will be refreshed after hard cropping with corn, wheat &c.; and so much food provided for a stock of cattle, as will return four-fold to the manure heap, and add yearly again in an increasing round to all the crops, if taken in a just succession.

I have mentioned no grasses but what I have myself tried. Rye grass, Herds grass, and Burnet, have been sufficiently proved by others. The last appears to be given up, the others have their advocates with reason, as yielding large quantities to the scythe; but they are coarse, and have no particular effect on the land, nor answer specially for intermediate crops, nor vary the seasons of labour and harvesting.

One general observation upon all crops is, that when they stand long upon the ground they favour the growth and seeding of weeds, which early and repeated cuttings serve to diminish.

Too much has perhaps been said, and it only remains to add, that you are welcome to my name, if it is of any consequence, though it is as little desirable to me as any one to place it before the public.

JAMES H. McCULLOCH.

JOHN S. SKINNER Esq.
Editor of the American Farmer.

P. S.—I forgot to mention that my soil is a pretty stiff dry loam, of middling quality; formerly worn out in corn, &c.—improved for some years by alternate crops and moderate manuring.

ADDENDA.—Judge Peters in his judicious Notices to Young Farmers, which should be kept as a manual of practice by every one, old or young, observes, "If you are deficient in mowing grounds, oats may be sown on your fallow ground, and cut fur hay before ripening, &c."—and afterwards, "if any covering crop for summer fallows, which does not exhaust like oats, could be suggested, a great reformation would ensue. Vetches, or some such plant might be substituted; the Heligoland bean is now esteemed in England as a cleaning crop; a spring cover of peas, ripening in time, is beneficially used to precede wheat, in the autumn," &c.

Now, this sound suggestion of the Judge is exactly answered by sowing tares, which either sown early in November or March, will cover the ground with an enriching crop, as all of the pulse kind are supposed to be, and furnish an excellent hay, or green food, according as it may be wanted, from the beginning of June to July or August, as they may have been sown, soon or later. Oats not only impoverish the ground, but when cut green, appear to be distasteful to the creatures, who I have often observed, will not eat them if they can get any thing else. Indeed, it appears to be the wise order of Providence to preserve the grain bearing plants, that they shall not be pleasant in an unripe state, to the grazing animals. Hence they are allowed to ripen their seeds, which are endowed with such capacities, that afterwards they will supply new plants in their proper soils and climates, in despite of all casualties. And thus are the valuable grains preserved, which so apparently insignificant alone, when they are gathered from full fields by the reaper, constitute the food of almost all the nations of the earth. To collect these

grains to sow the seed to gather the crop, left to man's skill and labour, which may be greatly assisted by the instruction of the most observant and best judging. To him who "caused every plant and tree bearing seed to grow out of the ground," it must be left to give fulness and perfection in the field. This is not often withheld, were honest labour works with unviated purpose. Even the unskilful industry of the first settler, generally the most virtuous, is most happy in raising the supplies of life, which a more luxurious and dissipated race, though with increased knowledge, means and preparations, and driving harder to increase the desired fruits, is often disappointed of. It is usual to attribute much to a new soil, and there is a good deal to be allowed for that. But does it not at once teach the great lesson; keep your land in the state of freshness by giving them rest; restore them to it by grass and manure; be sober and industrious; look for the droppings of heaven with trust and patience, and no scarcity will be felt, nor need you fly to other fields, where, without a change for the better, the evil you complain of will soon follow.

BALTIMORE:

FRIDAY, JUNE 18, 1819.

NOTICE TO SUBSCRIBERS.

When I purchased from Mr. REDDING, the establishment of the *Maryland Censor*, I contracted with him to supply his subscribers with my Agricultural paper, in lieu of the *Censor*, until the 19th day of August next. Now this is to give explicit notice, that the *American Farmer* will not be sent, after the 19th of August next, to any one of the subscribers to the *Maryland Censor*, who shall not have paid, before that day, the amount of his subscription. The terms of the *Maryland Censor*, expressly stated, that two dollars were to be paid in advance, and one dollar at the commencement of the second half year.

I undertook to conduct an Agricultural paper, because no one else had done, or would do it, and because I thought a paper of that kind might do much good. I never looked to it as a source of any profit, but I determined it should not be one of embarrassment. It was therefore resolved to give the worth of the money, and to have payment in advance; reflecting that one thousand persons, could better afford to trust me with four dollars each, than I could trust four thousand, scattered over the United States. To these resolutions, I shall adhere. On the one hand, I shall be ready and glad to supply any number of papers, that from any accident, do not come to the hands of my subscribers. On the other hand, should any gentleman, find his paper discontinued, he is advised to look at his receipts, and see whether he has paid up according to the terms of the paper. I have the paper printed by contract, at so much a number, and make it a point to pay as I go.

PRICES CURRENT.

We have nothing particular to offer our readers, this week, as to the prices of country produce, no essential variation having occurred since our last, more than is noted in our regular list on the last page, which is every week carefully corrected.

Live Stock.—Eighteen Bullocks, from the S. Branch, Potomac, weighing about 700 each, very fat and fine, sold yesterday to the butcher, at 9 dollars per hundred; that is for the neat beef. The butcher gets the offal in the bargain.

COMMUNICATED.

BRAZILS.—News received in town in 58 days from Pernambuco, intimate that the spirit of insurrection is far from being extinguished in that important section, though open resistance had in a measure ceased. The motives which actuated the men, who in 1817, so bravely challenged their oppressors, unfortunately, were not sufficiently understood at that time by the people; but

the solitude created by the merciless executioners, has taught reflection to the inhabitants, and it is asserted by an attentive observer, that the names of those who either perished with apparent ignominy on the gallows, or suffered proscription, begin to be pronounced with enthusiasm and veneration amidst the effusions of individual feeling, not only at Pernambuco, but at Bahia and Taneyro. Certainly, the information gained by the Brazilians, by means of their extensive trade, their industry, the riches of one of the most luxurious countries in the world, and their national pride inherited from the *Viriatos* and the discoverers of India, cannot fail from bringing a simultaneous and timely change in the government, which now disgraces that portion of the great American family; and our correspondent announces that that period is not far distant.

Linen and Thread from Nettles.—The Irish have recently made some experiments upon the floss of nettles, for the manufacture of thread and linen—and the result is said to be, that both these articles are obtained equal if not superior to the thread and linen from flax.

The following valuable receipt has been kindly communicated by a friend, who has frequently witnessed its efficacy, and believes it to have saved the lives of no less than three persons in this city. We consider him as having done a great service to the community by enabling us to publish it.

Cure for an ulcer of long duration, and generally deemed incurable, and what is called the inflammatory ulcer.

Take Lunar Castic,	- - -	20 grains.
Extract of Lead,	- - -	1 ounce.
White Vitriol,	- - -	$\frac{1}{2}$ ounce.
Corrosive salt,	- - -	12 grains.
Soft Water,	- - -	$1\frac{1}{2}$ pint.

The ulcer to be washed with a mop, or used as a gargle for the throat, as often as the patient can bear it. The application may be assuaged by a wash of sage tea, or honey, immediately after the gargle is applied. One or two spoonfuls of flour of sulphur may be taken night or morning. A sweetened decoction of the woods may be taken at the same time, and an invigorating diet may be used.

The following resolution was passed at a very respectable meeting, in Newcastle, Delaware on the 13th May.

Resolved, as the sense of the meeting, that the present condition of this state calls for some plan, or system of conduct, tending to effect retrenchment, in our domestic expenses; to encourage our own industry; and to husband our own resources; that the best and surest means of attaining these important ends are, a temporary discontinuance of the use of imported merchandize as far as may be found practicable and convenient; and of imported vinous and ardent spirits; and in lieu thereof, to encourage the use and consumption of the products of the skill and industry of our own state; that an association of citizens, with a view to these important objects, might prove eminently useful, and instruments towards their promotion and accomplishment; therefore, further *Resolved*, that a committee, to consist of nine persons, be appointed, to devise and prepare a plan of Government for such an association; and to collect such facts and information as may serve to show the utility and practicability of the plan; and to make report at the next meeting.

HARD TIMES!

In this depressed state of commercial speculation, and when "hard times" is the mournful exclamation of every man we meet, it is gratifying to observe in different sections of the country, a disposition to retrenchment and economy, the only sure means of relieving ourselves, ultimately, from the effects of a national debacle—which we are now enduring, as an Eastern writer truly observes, "in an interval of languor and sickly depression." Meetings are convening, and associations forming, for the purpose of encouraging

Domestic Manufactures, &c. In cases of emergency, the Americans have generally been found good at an alternative. The most feasible, now, in order to smooth present difficulties, and secure future prosperity, is, like the industrious spider, to web from our own vitals. Enterprise, industry, and perseverance, will, if rightly directed, in a few years do wonders. Let every man look to his own conduct; there is no one so insignificant as not to be quoted as an example—let each one strive not to be quoted negatively!

Captain Daniels, of the Oriental brig of war La Irresistible, was on Wednesday acquitted of the charge brought against him, which had occupied the attention of the District Court for some days. Pinkney and Winder were his counsel.

Capt. D. was tried on charges relative to the cruise of the Irresistible, previous to her being taken possession of by the crew at Margaretta, the particulars of which have been published. The acts of piracy subsequently committed by that vessel, are not, nor can they be, attributed to him.—*Patriot*.

Despatch of Business.—The Legislature of Rhode Island met at Newport, on Wednesday, the 5th May, elected their officers, read over the returns, and counted the votes for Governor, &c. &c. On Thursday, Gov. Knight, and other general officers elected, were sworn into office. Both houses, on Friday, ballotted for the civil appointments throughout the state, public notaries, justices of peace, &c. &c. Same day, the house of representatives unanimously passed a vote of thanks to Samuel Eddy, their late secretary, for the distinguished talents and fidelity, with which, for more than twenty-one years, he had discharged the arduous duties of said office. The Legislature then adjourned, having been in session near three days.—*Democratic Press*.

The Whale Fishery.—The following is the amount of shipping owned in the Island of Nantucket, and port of New Bedford, and employed exclusively in the whale fishery, (up to the 1st of March last,) viz.

Nantucket, 57 ships,	15351 tons,
7 brigs,	1065—16616.
N. Bedford, 26 ships,	7274
11 brigs,	2107—9382—25997.

* In addition to this number, 3 ships are now on the stocks, intended for whalemén.

Wilmington, Del. May 19.—The Grand Jury of New Castle county, beg leave to represent—That they are deeply impressed with the distressed and calamitous situation of the agricultural, commercial and manufacturing interests of the state; that, in their opinion, these evils have arisen from a failure of crops, and an unfavourable balance of trade—the results of excessive importations of foreign goods, exceeding to an immense amount, the value of our exports; thus draining the state of its specific and circulating medium; depressing the value of real estate, and increasing poverty and distress.

The only practical remedy for these evils, in the opinions of the Grand Jury, are a regular and strict economy in the expenses of the people; a retrenchment in the use of imported goods, and imported luxuries; a steady attention to the improvement of our agricultural products; and the encouragement of a market at home, by fostering domestic manufactures.

To a serious consideration of this important subject, the Grand Jury would most earnestly invite the attention of the citizens, more especially of this county.

Attest, ARCH ALEXANDER, Foreman.
S. H. BLACK, Clk. of G. J.

Exeter, N. H. May 18.—At a special meeting of the New Hampshire Medical Society, May 5th 1819, the following gentlemen were elected delegates from Massachusetts, Vermont, Connecticut, Yale College, and Rhode Island, on the first day of June next, in Boston, for the purpose of forming a Pharmacopœia, and to take measures for a national convention, to

form an American Pharmacopœia. Doctors Reuben D. Mussey, Ebenezer Leonard, Matthias Spaulding, and John C. Bachelder were appointed.

Boston, May 21.—We understand that Mr Bagot, the British ambassador, approving of a new invention by Mr. Perkins, late of Newburyport, applicable to the making of bank bills, has agreed with him to visit England, with six assistants, to put his system in operation for the Bank of England. If this plan is successful in rendering counterfeits impossible, it will destroy a powerful temptation to crime, save hundreds of lives, and thousands of pounds annually to the bank and individuals.

New London, (Conn.) May 19.

Messrs. Perkins and Tappan, engravers, from Newburyport, passed through this place on Monday last, on their way to London, where they are to be employed in engraving for the Bank of England. Mr. Bagot, we understand has paid them in advance, 5000*l*. and if they succeed in their business, of which there can be no doubt, they will also receive 10,000 in addition. Mr. Fairman, of Philadelphia, is also attached to the company.

POETRY.

SPECIMEN OF GERMAN THEATRICALS.

The following burlesque of the German pantomimical tragi-comedy, is extracted from "The Rogers," a mock tragedy, published in a periodical print, in the year 1810.

Scene, a Prison. Song, by Rogero in chains.

Whene'er with haggard eyes I view

The dungeon that I'm rotting in,

I think of those companions true,

Who studied with me at the U-

niversity of Gottingen.

niversity of Gottingen.

Weeps and pulls out a blue handkerchief with which he wipes his eyes, gazing tenderly at it, he proceeds—

Sweet 'kerchief, check'd with heavenly blue,

Which once my love sat knotting in!

Alas! Matilda, then was true,

At least I thought so at the U-

niversity of Gottingen.

(At the conclusion of this, Rogero clanks his chains in concert.)

Barbs! barbs! alas! how swift ye flew,

Her neat post-wagon trotting in!

Ye bore Matilda from my view,

Forlorn I languished at the U-

niversity of Gottingen.

This faded form! this pallid hue!

This blood my veins is clotting in;

My years are many—they were few,

When first I entered at the U-

niversity of Gottingen.

There first for thee my passion grew,

Sweet, sweet Matilda Pottingen!

Thou wast the daughter of my tutor,

law professor of the U-

niversity of Gottingen.

Sun, moon, and thou, vain world, adieu!

That kings and priests are plotting in;

Here doom'd to starve on water-gruel,

never shall I see the U-

niversity of Gottingen.

niversity of Gottingen.

(During the last stanza, Rogero dashes his head repeatedly against the walls of his prison, and finally so hard as to produce a visible confusion. He then throws himself on the floor in an agony. The curtain drops; the music continues to play till it is wholly fallen.)

BALTIMORE, PUBLISHED BY J. S. SKINNER.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I. BALTIMORE, FRIDAY, JUNE 25, 1849. NUM. 13.

AGRICULTURE.

From the Memoirs of the Philadelphia Agricultural Society.

Notices for a Young Farmer,

Particularly on Worn Lands, &c. &c.

WITH NOTES BY THE EDITOR OF THE FARMER.

[Continued from No. 12, page 90.]

Fire on Soils; its uses, and observations thereon.

XVIII. The effects of FIRE on soils, are well known in foreign countries to be salutary; and here, proofs are not deficient. Various modes in which it has been applied, are to be found in European books. When carried to excess, it is like all good things abused, no doubt injurious. Nor would any one wish to destroy the inestimable vegetable matter of a sod, capable of being completely decayed, so as not to vegetate; for this would be unnecessarily wasting the means of restoring fertility, by the co-operation (with this inert vegetable matter) of manures, or materials for the food of plants in the earth or in the atmosphere. But where bulbs, or other pests are otherwise indestructible; or the substratum be clay proper for burning into highly fertilizing manure, there can be no reasonable objection to the application of fire. *Denshiring*, or *burnbaking*, is described in agricultural books, wherein its benefits are developed, and the improper use of it pointed out. *Burnt clay* has been long known to be fertilizing, and so are the ashes of *heat* and *turf*. Even burning brush and straw on fields, is proved to be almost incredibly fertilizing and productive. Burning the foul cover of wild grass and weeds, before ploughing for Indian Corn, even in the spring, has, in frequent instances, destroyed the grub or the eggs of its parent. In *what manner* heat operates on soils, it is not essential, nor is the inquiry whether the effect be produced by the ashes or the mere application of fire. The facts are well ascertained, and that is enough for all practical purposes. Some soils may be less benefited than others; and with some, burning may entirely disagree. Whatever may be the theory of, or prejudices against this operation, it behoves us at least to try, if even on a small scale, a practice which has the approbation of eminent and successful practical and scientific agriculturists in Europe. And in this, as in every other operation, a farmer should know and calculate on the nature of his own soil, and thereby judge of the expediency and propriety of any practice.

Ditching and Draining. Warping. Irrigation. Stagnant Water injurious if not carefully attended to.

XIX. Our awkward mode of ditching and draining our swamps or wet grounds, is not only inconvenient and unsightly, but occupies space unnecessarily. UNDERDRAINING, and thereby preserving a level, dry cultivatable and productive surface, is every way eligible, where the site will admit of it. It would be well for some spirited agriculturist to set an example of improvement in this regard. Lessons in European books, for underdraining, are in plenty; and there is one in the Memoirs of the Philadelphia Society.

In declining grounds, a straight open ditch in the direction of the declination, is injurious and dangerous. Violent floods in such ditches, always produce a ravine or gully. The ditch should be oblique and calculated to resist them, whilst it still affords a sufficient passage to floods. Nature establishes precedents; her streams being generally meandering and flexuous. Under, i. e. covered drains, are not liable to the ravages of floods; and may be straight, without being exposed to the dangers to which open ditches are subject. Our rich alluvial tide-water meadows, are not included in these remarks; the drains and ditches of these, for the most part, must necessarily be wide and open. Modes of *surface draining*, and instruments for the purpose are pointed out and described in European books, and are well worthy our attention.

The fertile bottoms on rivers and less streams, frequently prove the fecundating effects of overflows occurring from floods, which leave their rich deposits on the recession of the waters. In Europe they practice what is there called *warping*; to produce, artificially, the like result. By means of banks, dams, and flood-gates, where there is fall enough to drain off the tides admitted, they introduce the water of a river, (and the more turbid the better,) and suffer it to remain stagnant until it has not only destroyed worthless vegetation, but by the settling of the rich mould which has been held in solution, a great store of manure is deposited for profitable culture and renovating the fertility of the soil. After their first operations are completed, they suffer the banks, sluices, and flood gates to remain, and admit the water occasionally, as it may be necessary for either irrigation or manure. In our embanked meadows, something of the kind is accidentally or purposely done. But it would be well, where it is practicable, to introduce this improvement among us. Many modes of irrigation are practised in other quarters of our globe; but here water is not applied to agricultural purposes, in any degree equal to the uses whereof it is capable. In our southern countries, it is only applied to particular crops. *Birkbeck's* account of irrigation in the south of France, is well worthy of attention. It will be seen, that its uses are not confined to grass, but are extended to every species of crop, and so had been, there through ages: Channels for the conveyance, distribution, and delivery of water from one farm to another, have remained for a time beyond the memory of man; and are held as inviolable as the boundaries of property. But the use of water should be carefully studied. Stagnant water, if suffered to remain long, injures vegetation, and even its deposits of rich manure have bad effects on some grain, in the first instance, though finally they fertilize wonderfully. *Wheat* is the most injured by stagnant water, and is often so scalded and deteriorated, as to become abortive, and produce only *cheat*. In winter the irrigation of grass grounds, is held to be most advantageous; and the water is more nutritive by its deposits. In hot weather it scalds, and should be turned off, so as to be only occasionally used.

Discretion, as to the numbers and species of live stock, recommended, and judicious selection of breeds.

XX. Always rather *understock* your farm, with domestic animals. An extra number of *Horses*, is the most oppressive. No farmer should be without a due proportion of *working oxen*. The *neck yoke* is the simplest but is not deemed the best mode of enabling them to work. That *fitted on the forehead* and attached to the horns or *collars*, and other appropriate *gears*, are, by many, preferred.

Have no more *Swine* than you can feed well; (always wrung,) and kept within your own enclosures, if your farm be in a populous neighbourhood. Running hogs are fertile sources of bitter enmities, and petty controversies. A rooting hog wastes its flesh and requires more food to restore it, than is gained by the scanty prey after which it labours. Nothing is better for store-swine, than red clover eaten off the growing plant. But differently from horned cattle, green clover cut and given to them, will keep them in good plight. They waste as much as they eat, and do not relish it in this way.

In a well managed *butter dairy*, skimmed and butter milk will afford means of raising a store-pig to each cow besides a due allowance for some sows, to produce pigs for store-hogs and roasters for the market. Few farmers, however, do so much, because they will not raise esculent roots, as substitutes for grain, for winter keep of store-hogs. A milk dairy furnished food for sows and pigs, from the offal and unsaleable milk.

Let all your stock of animals be of the best breeds: but study useful qualities, more than shewy figures. Yet well proportioned and slightly animals are generally the most valuable, both as it regards usefulness and keep. There are exceptions, in dairy cows particularly. *Large* horses, cattle, sheep, and swine, are not the most profitable. Those of the middle sizes are, on every account, to be preferred. Ostentation (and as it respects the *horse* particularly, a less innocent motive,) more than real benefit, too often excites

those who value themselves in exhibiting very beautiful horses, very large and very fat, (and of course very expensive,) cattle, sheep, and swine. This may be, and is a laudable pride in those whose circumstances admit of indulging it; and breeding well formed and well endowed animals is highly worthy of encouragement and merited praise. But hardihood and easiness of keep should be prominent qualities, especially in the stock of a farmer. For such qualities, and many other good properties the *Tunis sheep* will be found worthy of great attention.

A principal of adaptation of animals, as well as plants, to soil, climate, and situation, will be found in nature, with rare exceptions. The various species of *sheep* prove this principle. Dry countries are best, for all, as they require little drink and wet soils produce diseases. Yet fenny countries, and coarse bites (especially if salt,) are favourable to some kinds. The Lincolnshire and long woolled, will thrive in such situations, and with such feed, where fine fleeced sheep would perish or degenerate. In our zeal for fine woollen sheep, we overlooked this principle, and believed that any pastures would suit them. The *Cheviot* sheep delight in mountainous ranges, often covered with snow; and the *Shetland* race in short bites, salt air, and barren browsing; yet the fleeces of the latter are finer, though more scanty, than those of the *Merino*. Instances of other animals might be adduced. Old pastures, dry and elevated, are best for sheep, and preferable to artificial grasses. Of such grasses, Mr. Coke, of Norfolk, in *England*, finds the *cocksfoot*, (our orchard grass,) constantly fed, the most eligible. He *inoculates* a clear fallow field with sods of old lay, three inches square, and the same distance apart, to renovate old pasture, so valuable is it deemed. His fields are well cleaned, by his row-culture, which he extensively and profitably practices. New countries produce no proper pastures generally, for fine fleeced sheep, though there may be selected spots. The sheep for such countries should be those of the heavy fleeced and long woolled breeds. *Prairie* countries, it would seem, are peculiarly calculated for them.

Household Manufactures are of the first importance; and *practical farmers* should breed heavy fleeced and worsted or long woolled sheep, for common purposes, in such manufactures, as well as for marketable carcasses, even in old settlements and districts of country. But for any flock a better mode of providing their keep through the winter and spring months, must be introduced. Succulent food, consisting of *carrots*, *potatoes*, Swedish, or other *turnips*, *Mangle Wurzel*, &c. must be provided. Sheep out of condition are most worthless stock. Wool not mutton can no more be produced from a starved flock, than can a profitable crop be gathered from a sterile and ill cultivated field. No question is intended to be discussed on the subjects of large manufacturing establishments, or fine woolled sheep. Enough, both of experience and discussion, has already been exhibited, to enable every one to form his own opinion. Under prudent and intelligent direction, both of these great subjects of public prosperity will settle down to their proper standard, and where that is exactly to be found, only time and *experience*, faithful and unerring monitors, can, with any precision deter-

mine. See Vol. III. Philadelphia Agricultural Memoirs, pages 362, et seq.

Our breeds of horned cattle particularly, are too little attended to, and dairy cows, especially, are with difficulty obtained. True, the demand for them is much increased. But this should operate as a stimulant to multiplying their numbers and attention to their breed, which requires different qualities, in many respects, from those fit for the knife. For this reason, a variety, in breeding cattle for the specific purposes to which they are devoted, should be carefully studied. *Mules* are highly valuable; but are not so generally used as they should be. It would be well to spread this long lived, hardy, and laborious animal, of the best kinds, through our country. Breeding *in and in*, i. e. from the same family, is a subject of diversity of opinion. No doubt a selection from a large flock or herd, of the finest forms and qualities, however near the blood, will generally ensure a good race. But when the parent-stock is small in number, and kept too long on the same farm, the experience of many respectable breeders is decisively favourable to changes and crossing: exceptions there are to this position; and so there are to every general observation and practice. It is generally agreed, that the male stamps the character of blood and breed on the progeny.

Against keeping an unreasonable number of *sheep*, there have been, recently, ample warning. Such excesses, generally, (but for the time, injuriously for individuals,) regulate themselves. In *England*, extravagant speculations in *sheep*, were checked, (as far as legislative interference could accomplish,) by laws. In the time of *Henry VII.* an act of Parliament recites, that some flock-holders had 24,000 *sheep*; and enacts, that no person shall hold more than 200! Religious communities and characters held the largest flocks, and thus depopulated the country, and forced the labouring classes into mendicity and crimes for want of employment. They drew on themselves their dissolution, and restraints on their sordid propensities, by thus affording to this arbitrary monarch, some plausible pretexts and many justifiable motives for his fatal hostility towards them. See an interesting paper on the *poor*, and *Poor Laws*; and *Bath Papers*, 14th vol. pages, 245, et seq.

Such causes have in no small degree, contributed to keep the plough idle in *Spain*, and other countries, where according to the quaint phraseology of an old poet, "sheepe have eaten men many a yere;" in place of "men eating sheepe." Instances however, of excessive abuse, are no arguments against breeding these highly valuable animals, in numbers adequate to our prudent demands for them.

Great flocks may be kept, in parts of our country in which they would not interfere with other branches of husbandry. *Locality* is therefore of primary importance. Lines of states are well for jurisdictional purposes. But local prejudices are injurious on the great national scale. Mutual wants plentifully supplied, will bind us in bonds of common interests; and we shall the sooner become one people. If, in old districts, cattle or sheep cannot be so advantageously raised or fattened as in newly settled countries, let us apply our efforts where they are more beneficial. What liberal mind was not gratified by

a recent influx of prime beef cattle, from the western country; some of them preferred, by our victuallers, to those of our vicinity, after having been driven more than 400 miles? The sea board markets will thus be reduced to their proper level, for home consumption and external commerce.

A farmer should confine his objects to such as properly fall within his system of economy; so that one member of his general plan shall not interfere with, but be assistant to another. There are sheep for farmers, and sheep for flock masters. Speculation should not be indulged; being adverse to habits of industry, and tending to bring on reverses, which a husbandman is ill calculated to bear. Extravagant speculations, in any pursuit, defeat their own objects, by lessening the value of an article increased beyond the demand; and, in such case a kind of re-action reduces its price below its real estimation. A farmer should sedulously avoid propensities which foster ideas that profits are to be gained by *lucky hits* in the lottery of chances, in preference to the slow but sure rewards of industry, economy, and prudent management.

(To be continued.)

FOR THE AMERICAN FARMER.

A View of the Agricultural Condition of the lower Counties of Maryland.

No. 1.

Nothing can present to the traveller's eye a more dreary and miserable aspect, than the condition of most parts of the lower counties on the western shore of Maryland. If he has ever passed beyond the Delaware line, and from thence eastward, he is forcibly struck with the gloominess of the prospect which presents itself in this section of the state. Dreary and uncultivated wastes, a barren and exhausted soil, half clothed negroes, lean and hungry stock, a puny race of horses, a scarcity of provender, houses falling to decay, and fences wind shaken and dilapidating for the most part salute him on his journey.

It would but ill become a citizen to triumph in the wretchedness of his parent state, but it best becomes him to point out errors which lead to, and which, if not timely repaired, will eventuate in total ruin.

The cultivation of tobacco as a sole and entire crop, has brought this scene to pass. The origin of its culture, the colonial condition of Maryland, and the policy of England to encourage its growth, are subjects more suited to the pen of the historian, or the writer on plantation trade, than to the compass of an essay. Yet a few remarks are necessary to the complete understanding of the present condition of this part of the state.

English colonization began in the reign of James I., was conducted under the immediate administration of the crown, engaged in under the sanction of royal charters, and the settlement and trade ordered and regulated by the king and privy council, without any participation of the parliament or colonial legislature. The great object of the plantation regulations was, to encourage colonial productions, in preference to like articles from other countries, and to require of the colonies that all their productions should be sent to England in English shipping.*

Tobacco being an indigenous plant, thrived well in Virginia, and notwithstanding the capricious dislike which James I. conceived against it, met with encouragement from him and his privy council. Although at first it was prohibited by proclamation, yet the customs which used to be received from it, failing, the king in 1623 compromised with the Vir-

* Reeves' Law on Shipping.

guia company, and consented to receive a duty of 9d. per pound in lieu of a duty of 1s. 6d. per pound, and the company were to have the sole importation upon the express condition that the whole production of the colony should be brought to England.† In 1624, the importation of tobacco into England or Ireland was prohibited by proclamation except from Virginia or the Somer Islands, and except in ships belonging to English subjects. James also prohibited the planting of it in England or Ireland, or in the Isles to the same being long.‡ In the following reign, in 1639, Sir William Berkeley was directed to enforce these regulations.

Maryland was planted by Cecilus Lord Baltimore, in the reign of Charles II., and like Virginia engaged in the cultivation of tobacco. In this reign it was enacted by 12 Car. 2. ch. 34, that no one should plant tobacco in England, Wales, Guernsey, Jersey, Berwick or Ireland, on pain of forfeiting it or 40s. for every rod of ground so planted. This penalty was increased to 10l. by 15 Car. 2 ch. 7. sec. 18, and a still stronger act was passed 22 and 23 Car. 2. ch. 26, sec. 2.

This great article of produce being thus encouraged by the British crown, privy council and parliament, it is no wonder that its cultivation was so generally adopted in the lower counties of Maryland. The numerous rivers in the state afforded a great facility of transporting this bulky article to market, a new country and virgin soil afforded the means of producing it of the finest colour, with little trouble and small expense, and each cultivator being formerly his own shipper, he united in himself, the profit of the merchant with the gains of the planter. But those circumstances are greatly altered. True it is, Maryland has still her numerous rivers, but no longer possesses a new country and virgin soil, and the planter must now be contented with the sales of his crop to the speculator, too often owed before his beds are sown, or promised to the wily purchaser for the payment of debts before the inspector has seen a stave of a hoghead.

It has been the fortune of Maryland, to make tobacco a sole and exclusive crop, for though Indian corn, wheat, &c. are put in the ground, those crops are left to struggle for themselves, it being a favourite maxim of the planter, "If I can sell tobacco, I can buy corn." It would be a great gain to the state, if the planter could be induced to cultivate tobacco with a proper rotation of crops. By this means his lands would be enriched, and the quantum of tobacco diminished, in order to secure a proper succession. True, he could not boast on his inspection day, of the number of his hogheads, nor could he at the county court vaunt of the aggregate sum he had received, but he could show a healthy, fat and vigorous stock, the object of the victualler's search; grateful negroes, well fed and well clothed; his houses, his grounds, his fences, in short every thing around him in a progressive state of improvement; and he would have by the frequent sales of his frequent crops, what the planter has not; money, at all times, to pay his bills.

The labour bestowed upon tobacco, is greater than any other crop, and its profit is not proportionate to that labour. Its enormous consumption of labour, and its diminutive returns of manure, would startle even an old planter, to see an exact account of the labour devoured by an acre of tobacco, and the preparation of the crop for market. Even supposing that crop to amount to the extraordinary quantity of one thousand pounds, he would find it seldom, if ever, producing a profit on a fair calculation. He would be astonished to discover how often he had passed over the land, and the tobacco through his hands, in following, hilling, cutting off hills, planting, replanting, topping, suckering, weeding, cuttings, picking up, removing out of the ground by hand, hanging, striking, stripping, stemming and prizing, and that the same labour, devoted to almost any other employment, would have produced a bet-

ter return by ordinary success, than tobacco does by the extravagant crop I have supposed.

"Though its profit is small or nothing, its quality of starving every thing exceeds that of any other crop. It starves the earth by producing, but little litter and it starves its cultivators, by producing nothing to eat. Whatever plenty or splendour it may bestow on its owner, the soil it feeds on must necessarily become cadaverous, and its cultivators squalid. Nor can it possibly diffuse over the face of the earth, or the faces of its inhabitants, the exuberance which flows from fertilization, nor the happiness which flows from plenty."

One of the greatest evils resulting from the culture of tobacco, is thoughtless extravagance: it produces among its planters. Being raised as the only article for sale, the whole of the crop is commonly sent to market at the same time, and being converted into cash, by the magnitude of the sum, induces its possessor to fancy himself rich, and to act with that indiscretion which large sums produce, until at the expiration of a short time, he finds himself moneyless, and compelled to ask for credit upon the faith of the coming crop.

Tobacco requires attention to be bestowed upon it at those periods of the year when other crops require it; for this plant requires constant and unremitting attention, and is therefore, perpetually interfering with all other crops, by which means, the grain and grass crops are neglected, and often left to Providence to rear them, with scarcely any aid from the cultivator.

One of the greatest curses which afflicts those counties, is the negro population whose interest is in direct opposition to that of the master, and which constantly seeks to cheat him of all it can bestow, the daily labour of the slave. His population drives to the west, the white industrious poor man, who, unable to find employment, is compelled to go abroad in search of it to happier regions, where industry prevails, and slavery does not rob the cultivator of half his gains. The numerous thefts which are committed on most plantations, are so great, that nothing is made for market. The pigs are stolen before they are half grown, the hogs, the poultry, in fact every thing upon the plantation is the constant subject of depredation by the slave, and in the spring or open weather in the winter, when ploughing should be done, the horses are so lean for want of provender, that they cannot half perform their duty. And to what is all this owing? To the culture of tobacco as an entire crop; for as neither slave nor horse can eat tobacco, and as the master is most generally unwilling or unable to buy, so the slave, obeying the impulse of hunger, steals, and the unhappy horse pines to a skeleton.

It seems to me, while I am engaged in writing this short essay, that I could fill volumes upon the subject. The demoralizing consequences of raising any crop, which is neither fit for food or raiment, the miserable policy which can adopt such crop for culture, leading to a spare, scattered and wretched population, a population composed of whites, too proud, and of slaves too indolent to labour, press so strongly upon me, that I can with difficulty bear the narrow confines of an essayist.

From a thin white population, scattered over an extensive surface, follows many evils. The lands are held in too large quantities to be cultivated with profit and ease, and cannot be manured, but at great expense and labour. Good makers of agricultural implements, are few in numbers, which occasions great difficulty in procuring proper implements of husbandry, upon the most modern and approved construction, and having them repaired when procured. Where the population is thin, good examples in farming seldom occur, improvement travels with slowness, experiments are few, and the judgment and experience of more populous districts, not pursued for want of hands interested in the soil or crop, and possessing sufficient energy and industry

To all this is to be added the difficulty of cutting the crops in harvest time, for a want of a sufficiency of labourers. It is then evident that the planter has many serious difficulties to encounter before he can become a farmer.

And how is all this to be remedied? By two causes, which will produce corresponding effects—First, by not raising tobacco, as an entire crop, and, secondly, by increasing the white population of the lower counties. When a person having long by land, to the lower section of the western shore, leaves Baltimore as the beginning of his route, he is astonished to find in its immediate vicinity, as well as at a more remote distance, large wastes of uncultivated land, and at first he is astonished to think from what regions that large compact and populous city, draws its supplies of animal and vegetable food.

I have often thought it practicable to turn the tide of emigration, which flows without an ebb from the eastern to the western states. It requires no argument to prove, that if potatoes and other commodities can be raised in New England, and sold in the Baltimore market, with profit to the cultivator, that the same farmer possessing his yankee habits of industry and frugality, and unnumbered by the drones of negro slavery, settled upon the banks of the Chesapeake, might in a few years amass a considerable fortune. Would it not be easy, for the patriotic, to persuade the European emigrant to arrest his footsteps journeying to western wilds and impenetrable forests, and employ his skill and industry in reclaiming lands, waste for want of population.

I contend, that in this scheme Baltimore is deeply interested. While she is projecting canals and turnpike roads, to bring into her vortex, distant internal commerce, she is neglecting the means which nature has placed within a day's voyage of her numerous wharves, and expanded basin. Other rival cities are springing up, the bosom of the Mississippi and her tributary rivers, are waiting along the manufactured productions of Europe, and nothing can supply this loss of trade to Maryland, but by inviting and inducing a manufacturing and farming interest to remain in the state, where there is ample room, but little skill, and too often, still less industry.

AGRICOLA.

ON THE MURRAIN.

A DISEASE INCIDENT TO HORNED CATTLE.

No. IV.

To the Editor of the American Farmer.

The true epidemic Murrain, then, seems to be a low, or typhoid fever, and probably peculiar to black cattle, although it had invaded all the brute animals of Egypt, in a special instance, that being expressly a deviation from the ordinary course of nature—a curse. At all events, it cannot be correctly identified with any human epidemic; for not only are the general diseases of the different orders of animals distinct, but they vary little in the same species, even under different climates and conditions. Natural diseases like the animals themselves, have always existed, and will probably endure in the shape they were created. The transmutation of the vaccine and variolous disease, is as singular and solitary an exception to the one, as the generation of the hybrid mule, is to the other, and serve rather to elucidate than to question the unvaried order of nature, in all her discriminations. Nor are the diseases of the lower animals, either numerous, complicated, or necessarily very fatal, excepting always the ravages of some direful epidemics. By habits of domestication, they become more frequent, multiplied and aggravated—thus the horse, naturally, perhaps the most perfect, as well as the most noble brute animal, may be pampered almost to the gout, and become as sensitive to a humid atmosphere, as the tenderest bantling:—

"Nurs'd in soft lap, and fann'd with fragrant breath."

† Chalmer's Political Annals 52. ‡ Ib. 67. § Ib. 132

* Arator 267, 268.

Yet their artificial, as well as their natural diseases, are uniform and susceptible as the human, of exact definition, classification and treatment. The desideratum is, who are capable and willing to afford it? I have shown that object has not been accomplished, and never can, except through the instrumentality of physicians. Will or can they do it? This is a question, in my opinion, well worthy to partake of the very creditable zeal so lately manifested on agricultural subjects. The veterinary schools of France and England, have greatly advanced the knowledge and treatment of brute diseases, but deriving incidental aid only from professional men, they are compelled to proceed without method, and not possessing the elements of any system as medical institutions, they are comparatively inefficient. Time, with well concerted efforts, would remove such defects, and would attach credit to the American character, to do it. The physician will not stop behind others in support of measures well adapted to that purpose. But their service would not be so simple and certain as may be supposed. The laws and structure, in all animal life, are essentially similar, but the capacities of the different functions and their relation to each other, are so dissimilar, as to leave little resemblance in their diseases. The physician being an utter stranger to their symptoms and character, must study and connect them, *de novo*, beginning in a chaos. His only advantage, is, that his preparatory knowledge of the laws, and structure of animal life, and of the action of remedies, enables him to do so. The diseases of domestication, are with little exception, those only common to man, and other animals, and in which practical medical knowledge can be of any advantage. While, therefore, attention and research would be necessary, on the part of the physician, the credit, satisfaction and benefit resulting therefrom, would afford considerable remuneration; besides, there cannot be a doubt that, strictly speaking, such investigations belong to medical study, with a view to human diseases, since we all know what comparative anatomy and *a fortiori*, what comparative diseases can contribute to the medical art. Other incitements however, must be afforded, and the necessary facilities provided to secure efficiency to this undertaking.

For the present, I will close this accidental discussion, by merely suggesting that a well selected *Medical Board*, attached to each agricultural society of the state, with honorary members, &c. might readily become a medium through which the objects would be accomplished. Should this intimation be honoured by the notice of those societies, I may hereafter propose a plan adapted to it, should there appear to be any difficulty on that head. I should not however, be inclined to value the form, so much as the materials of which such an association should be framed, and the funds necessary to defray its expenses—a department of every subject on which it is more difficult to excite the necessary zeal and liberality, than on any other. A physician's time is his farm and his fortune, and should not therefore, be too deeply drawn on gratuitously. To a certain extent medical attendance should be paid for, and a premium of honour or emolument, or both, always afforded for reported cases, histories and discussions.

TITTYRE.

FOR THE AMERICAN FARMER.

HEDGING.

No. 1.

The subject of live fencing or hedging with thorn, is one of importance to the interest of Agriculture, and will some day gain a possession of some of the columns of the *American Farmer*. I shall endeavour to cast what light my experiments on that head for a number of years will furnish.

The advantage of *safe enclosures* to secure the product of the farmer's toil, is scarcely necessary to mention, as all must know, that to plant or sow without fencing, would (in this country) be a useless labour; yet from too much inattention to this neces-

sary part, how frequently does vexation follow from loss of crop.

The next inquiry is, what kind of materials are the best adapted to the purpose of fencing, and upon which we can place reliance. Whether *living* or *dead* materials the former, increasing in strength by age, the latter, diminishing in the same ratio, by the loss of time.

The comparative expense, of labour and materials, will be given hereafter, (on a given portion of each kind) as it stands in the neighbourhood of the writer; where timber is advancing in value every year, coming more into requisition for building, as well as for fuel and a variety of purposes besides the dividing and subdividing of farms, as the population increases; and it is now well understood, in some of our farming districts, that smaller fields than formerly, give a better product, especially in the grass farm, by frequent shifting the stock. Stone is an excellent material for fencing by erecting them into walls, in such situations as they abound, and must be removed out of the way, for the better cultivation of the land. They cannot be better disposed of, than to raise them into fencing, a practice many years in use in the neighbourhood of the writer, and with good effect, both for defence and doration, and should not be neglected, whilst they are in the way of farming, though too heavy to transport any considerable distance for that purpose.

Thorn is the best substitute to answer the most extensive purpose on various soils and climates, so far as the observations of the writer have extended. There are various kinds within our vicinity. The most predominant as a native is the cockspur kind, generally known by the name of the Newcastle thorn, I suppose from the abundance, both native and cultivated in the neighbourhood of the town of that name in Delaware state, where it is seen to thrive remarkably well. It has a thick green serrated or indented leaf, the upper side remarkable for its glossy smooth green, rather paler on the under side, the thorn or pike, strong and sharp, from one and a half to three inches in length. There are a number of other kinds, natives also of the Delaware, but of inferior quality, yet they will any of them make a hedge with care and attention.

There is another kind, termed in H. Marshall's catalogue of American trees, the Virginia parsley-leaved thorn. This shrub abounds, as I have been informed by a Botanist, (Bartram) through all the southern states; upon my own observation, I never found a native stock, growing eastward of the Potomac river, though abounding plentifully on the western shores, from whence they were first obtained and introduced into Delaware, about 1807: since that time, they have been propagated through a part of Delaware and Pennsylvania states, with good success, making an excellent hedge, where rightly managed. The Virginia thorn, as it is now named, is more approaching in appearance in the leaf, to the European horn, that was introduced here by some of the early settlers, but far superior in point of defence. The foreign thorn does not thrive so well, neither is it so defensive, the prickles being very short, scarcely fit to get the name of a thorn, compared with the cockspur or the Virginia kinds, and very little progress was ever made in this country with it. Some scattered remaining old stocks are to be seen in early settled neighbourhoods; one instance of a late planted hedge I have under my notice, and have observed its progress six or seven years, but have no reason to give it a preference to our native kinds, therefore shall leave it without recommendation, and return to the Virginia, or as Marshall terms it, the parsley-leaved thorn, which is easily propagated from the seed, and will vegetate the first year after they are produced; the Newcastle or cockspur, will not before the second, and a great portion of them not until the third year; which circumstance is very discouraging to the cultivator, his ground becomes possessed by some other product that prevents the young thorn from thriving, and in attempting to keep it clean, he runs the risk of destroying what he would wish to preserve, not

knowing when to look for the appearance of the desired plant, above ground, therefore often loses the labour already bestowed.

The Virginia shrub is not only easily propagated from the seed, (more of which shall be noted hereafter) but thrifty if taken care of when young, and has an abundant armour of prickles, about an inch long, and as sharp as needles, (comparatively speaking.) A certain uniformity in its growth, gives a uniformity to the hedge, that is not to be found in any other kind; more manageable in the training process, than any other brought into use.

(To be continued.)

Interesting Extracts.

(CONTINUED.)

No. 2.—*Athenian Agriculture*.—*Abbe Barthélemy's Travels of Anacharsis*.

[Concluded.]

Let us suppose that you intend one day to exercise the noble profession which I follow. I should first endeavour to prove to you that all your care and all your time should be devoted to the earth, and that the more you shall do for her, the more she will do for you; for she is only so beneficent because she is just.

To this principle I should add, sometimes rules confirmed by the experience of ages, and sometimes doubts which you might resolve by your own observations, or the knowledge of others. I should say to you, for example: Choose a favourable situation. Study the nature of soils, and the manures proper to each production. Inform yourself when it may be necessary to mingle earths of different kinds; and when the earth should be mixed with the dung, or the dung with the grain.

If the subject in question were the cultivation of wheat in particular, I should add: Redouble your labours. Do not commit to the earth the grain you have last reaped, but that of the preceding year.—Sow sooner or later, according to the temperature of the season; thicker or thinner, according as the earth is lighter or heavier; but always sow equally. Does your wheat run up too high, be careful to cut it, or turn in sheep to browse on it; for the former of these methods is sometimes dangerous; the grain becomes long and thin. Have you much straw only cut down half of it, and burn what remains on the ground, it will serve for manure. Lay up your wheat in a dry place; and, that it may keep a long time, do not spread it, but heap it up, and even water it.

Euthymenes made several other remarks on the cultivation of wheat, and enlarged still more on that of the vine. I shall give you his observations in his own words:

We must be particularly attentive to the nature of the young plant, the labours it requires, and the means of rendering it fruitful. A number of practices relative to these various objects, and frequently contradictory to each other, have been introduced in the different districts of Greece.

Almost every where, vines are supported with props. They are only manured once in four years, or not so often: more frequent manurings would at last burn them up.

The attention of the vine-dresser is principally directed to the pruning: the object of which is to render the vine stronger, more fruitful, and longer lived.

In a ground newly cleared, a young plant should be pruned in the third year, but later in one that has been long cultivated. With respect to the season, some maintain that this operation ought to be early performed, because inconveniences may result from pruning either in winter or in spring, since in the former case the wound cannot close, and the eyes, or buds are in danger of being dried up by the cold; and, in the latter, the sap is exhausted, and flows over the buds near the wound,

Others make distinctions according to the nature of the soil. They say that the vines in a thin and dry ground should be pruned in autumn; those in a cold and moist one, in spring; and those in a soil neither too dry nor too moist, in winter. By these means the former will preserve the sap necessary to them, the second lose that which is superfluous, and all would produce an excellent wine. One proof, say they, that in moist grounds pruning should be deferred till the spring, and a part of the sap suffered to flow off, is the custom we have of sowing in vineyards barley and beans, which absorb the humidity of the soil, and prevent the vine from exhausting itself in useless branches.

The vine-dressers are divided on another question. Whether vines should be pruned long or short? Some say this is to be determined by the nature of the place or the soil; and others, that it depends on the quantity of sap in the branches: if that is abundant, several very short shoots should be left, that the vine may produce more grapes; but if there is but little of it, fewer shoots should be left, and the vine should be pruned longer.

The vines which bear many branches, and few grapes, require that the shoots at the top should be pruned long, and those lower down short, in order that the vine may be strengthened at the root, and at the same time the branches at the top produce much fruit.

It is advantageous to prune young vines short, that they may grow stronger; for vines which are pruned long produce indeed more fruit, but sooner die.

I shall not speak of the different labours which the vine requires, nor of several practices, the utility of which is acknowledged. We frequently see the vine-dressers strew a light dust over the grapes to defend them from the heat of the sun, and for other reasons, which it would be too tedious to enumerate. At other times, we see them pluck off some of the leaves, that the clusters, being more exposed to the sun, may ripen sooner.

Would you wish to restore youth to a vine nearly dead with old age, remove the earth on one side, and pick and clean the roots, applying to them different kinds of manure, and covering them with the earth. It will produce scarcely any fruit the first year, but, after three or four years, it will have regained its former vigour. If you afterwards perceive it begin to languish, again repeat the same operation on the other side; and these precautions taken every ten years, will in some measure render our vine immortal.

To obtain grapes without stones, you must take a vine shoot, and cut it lightly in the part which is to be set in the ground; take out the pith from this part, unite the two sides separated by the incision over them with wet paper, and plant it in the earth. The experiment will succeed better, if the lower part, thus prepared, be put in a sea onion before it is planted. Other methods are known to produce the same effect.

Would you wish to have on the same vine, both black and white grapes, or clusters, the berries of which shall be some black and others white, take a shoot of each kind, bruise them in their upper part, so that they may closely unite and incorporate, if I may so speak, tie them together, and plant them.

We afterwards requested from Euthymenes some instructions concerning the different kinds of plants of the kitchen garden and fruit trees. The former, said he, come up sooner when we make use of seed which is two or three years old. There are some which it is advantageous to water with salt water, cucumbers (a) are sweeter when their seeds have been steeped in milk for two days.—They thrive better in grounds naturally a little moist, than in gar-

dens where they are frequently watered. Would you have them early, sow them first in pots, and water them with warm water; but I must tell you that they will have less flavour than if they had been watered with cold water. To render them large, care is taken as soon as they begin to be formed, to cover them with a pot or vessel, or to introduce them into a kind of tube. To preserve them a long time, they should be covered, and kept hung up in a well.

Trees should be planted in autumn or rather in the spring. The trench should be dugged at least a year before they are planted. It is usual to leave it a long time open, as if it were to be fructified by the air. The dimensions of the trench are varied according as the soil is dry or moist. It is usual to allow to it two feet and a half in depth, and two feet in breadth.

I only relate, said Euthymenes, practices that are known and are familiar to all cultivated nations;—and which, replied I immediately, do not sufficiently excite their admiration. What time, what reflection must not have been necessary to observe and gain a knowledge of the wants, the varieties, and resources of Nature,—to render her docile, and diversify or correct her productions! I was surprised at my arrival in Greece, to see trees manured and pruned; but how great was my admiration to find that the secret had been discovered to diminish the kernel of some fruits, to increase the size of the pulp of other fruits and especially pomegranates, had been made to grow larger on the tree, by covering them with an earthen vessel; and that trees were compelled to bear fruits of different kinds, and be loaded with productions foreign to their nature!

This latter prodigy, said Euthymenes, is effected by grafting, by which the roughness and sourness of the fruits of wild trees is corrected. Almost all garden trees undergo this operation, which is ordinarily performed on trees of the same species; as, for example, a fig is grafted on another fig-tree, an apple on a pear tree, &c.

Figs ripen sooner when they have been punctured by gnats that come from the fruit of a wild fig-tree, purposely planted near. Yet those which ripen naturally are preferred, and the dealers who sell them in the market never fail to mention this difference.

It is said, that pomegranates will be sweeter when the tree is watered with cold water, and pigs dung laid round the roots; that almonds have more flavour when nails are driven into the trunk of the tree, and the sap suffered to flow out for some time; and that olive trees do not thrive when they are more than three hundred stadia from the sea.* It is likewise said that certain trees have a sensible influence on other trees; that olive trees delight in the neighbourhood of wild pomegranates, and garden pomegranates in that of myrtles.† It is added, in fine, that the difference of sex must be admitted in trees and plants, an opinion which was at first founded on the analogy that was imagined to exist between animals and the other productions of nature, and afterwards confirmed by the observation that palm-trees do not bear fruit unless the females are fructified by the down or dust contained in the flower of the male. This species of phenomenon must first have been observed in Egypt and the neighbouring countries; for in Greece the palm-trees raised for the ornaments of gardens bear no dates, or at least never bring them to perfect maturity.

In general the fruits of Attica have a sweetness not found in those of the neighbouring countries, which advantage they owe less to the industry of the cultivator

sions not being sufficiently clear, I shall content myself with referring my readers to the modern critics, as Jul. Scalig. in Theophr. Hist. Plant. lib. 7. cap. 3. p. 741; Bud. a Stapel. in cap. 4. ejusd. lib. p. 782; and several others.

* Eleven leagues and one third.

† There is in the nature of the Walnut and the Cedar, on the contrary, something so hostile to the Thorn, that hedges often decline and perish in the neighbourhood of these trees.—Edit. Am. Farmer.

than the influence of the climate. We as yet are ignorant how far this influence will correct the sourness of those beautiful fruits which hang on that citron-tree lately brought from Persia to Athens.

Euthymenes spoke to us concerning rustic labours with pleasure, and with transport on the delights of a country life.

One evening, when we were seated at a table, before his house, under some superb palm trees, that arched over our heads, he said to us: When I walk in my fields, all things smile and seem embellished with new ornaments in mine eyes. These harvests, trees, and plants, exist only for me, or rather for the necessities whose wants I relieve. Sometimes I create to myself illusions to lighten my enjoyments, and the earth then seems to accompany her benefactions with a species of delicacy, announcing her fruits by flowers, as among men benefits ought to be accompanied by the graces.

An emulation without rivalry forms the bond of the union between me and my neighbours. They frequently come and take their places around this table, which was never yet encircled but by my friends. Confidence and frankness reign at these repasts; we communicate to each other our discoveries; for, unlike to other artists who have secrets, each is only emulous to inform himself and instruct his friends.

Interesting.

The following "REMARKABLE CONFESSION OF A CONDEMNED MALEFACTOR," has been translated from the German, and published in the *New Monthly Magazine* for the present year. It was originally published in the form of a letter, from the clergyman who attended the Malefactor in prison, and to whom the confession was made.—The introductory matter is omitted as not necessary to an understanding of the confession, and as calculated to extend the article to too great a length. It may, however, be proper to remark, that the malefactor at the time of his execution, was but two and twenty years of age.

From the *London New Monthly Magazine*.

"My father was a respectable tradesman in this town and I, his only son, was educated with all possible care, under his immediate inspection, to succeed him in his business. From my earliest years, my disposition was silent and reserved, and the perusal of instructive and entertaining books, the dearest, and almost sole employment of my leisure hours. I avoided, from choice, the noisy pleasures of the world; and my parents cherished me, on account of this exclusive attachment for my home, with redoubled affection. In my seventeenth year I lost my mother. My father continued single for a considerable time longer, in content and happiness; he was actually approaching his sixtieth birthday day, when he had the weakness to fall in love (if, indeed, his passion could be so termed) with the youthful daughter of one of our neighbours, whose only riches consisted in her extraordinary beauty and unsullied reputation. He formally demanded her hand of her parents: and the latter, who had looked upon him as a thriving, wealthy tradesman, compelled their child, partly by threats, and partly by persuasion, to pledge her faith to him, rather with her lips than with her heart. The wedding day was already fixed, when my father fell dangerously ill: he, however, soon partially recovered, and although his physician, and some still remaining weakness counselled to delay, he paid but little attention to either, summoned up all his strength, and celebrated his marriage as well and as gaily as his situation permitted. But on that very day, whilst seated amid his friends, enjoying the delights of the festive board, he suddenly became so faint and ill, that he was obliged to be carried from the table to his bed, from which he never again rose. He lingered in this state a whole year. And it is certain, incontestably certain, that this ill-starred marriage never was consummated.

"Meanwhile the maiden whom he had espoused, assumed the name of his wife, and in reward for the resignation and cheerfulness with which she supported the toils, and fulfilled the duties of an affectionate and careful nurse, he bequeathed to her by his will his

(a) On Melons.—From some expressions to be found in the ancient writers, there seems reason to suppose that, at the time of which I here speak, the Greeks were acquainted with melons, and considered them as a species of cucumber; but these expres-

whole property; and left me, his only son—against whom he had never had cause to utter a single complaint—with the exception of my scanty leg portion, penniless! How much reason soever I might now appear to have, to hate, or at least, to shun a person who had deprived me, almost in an unlawful manner, of a considerable fortune—the contrary feeling prevailed over my resentment. She was, as I have already observed, young, beautiful, of an irreproachable character; mild and obliging towards every body, and from the first moment of our acquaintance, peculiarly engaging in her behaviour to me. Little then aware of the reason, I yet sought her company at every leisure hour—delighted in her conversation—often asked her opinion on the concerns of the house, and soon observed with secret pleasure, that she was on her part anxious to obtain mine, even on trifles, and followed my advice with the most scrupulous attention. Thus passed on some months, and I thought not on the danger of our growing attachment: but when she daily became dearer to me, when no place without her any longer had charms for me, and sleeping or waking, her idea was constantly present to my thoughts: then, too late, I observed the flame that glowed within my breast. Terrified at the precipice on which I stood, and resolved as much as possible to avoid one who never could be mine. I should immediately have quitted my father's house, had I not been withheld by the dread of the comments which my fellow citizens would make on my conduct, by whom it might have been deemed the effect of anger against my parent for so unkindly disinheriting me—by the present situation of affairs in our business, to the prosperity of which my presence was absolutely indispensable—and lastly, by the evidently approaching dissolution of my still beloved father.

However, I maintained, during some time, my resolution of shunning her society; but no sooner was she aware of this, than, on the first opportunity, following me to a sequestered part of the house, she implored me with tears in her eyes, to tell her the reason of such an alteration in my conduct, for which she had never intentionally given me any cause, I stammered out something in the form of an excuse, but all that I could say, was, by her, gently, yet clearly refuted; and at last, as my agitation increased, and some words escaped me, which but too well explained my real feelings, she could no longer restrain the impulse of her affection, but throwing herself into my arms, avowed her attachment to me. This event put an end to all constraint on my part, and no longer endeavouring to disguise my love, I still forced myself to try to impress on her mind the impossibility of her ever being mine, and the absolute necessity of an eternal separation from her; and after a heart-rending effort, burst from her in agony and despair. But she clung to my arm, asserted that she was but the legal, nominal wife of my father; set before me the certainty of the speedy removal of that obstacle, and insinuated the delightful hope, that a mere name would be the insuperable barrier to the accomplishment of our mutual wishes.

Her urgent entreaties, and the confidence with which she adverted to the latter alluring argument, finally overpowered by weak opposition. But by that holy name, before whose judgment seat I am about so soon to appear, I swear to you, reverend sir, that nothing passed between us, with which my conscience at that awful hour, can reproach me. A tender embrace, and reciprocal assurances of attachment and consistency, were all that I wished for, attempted to obtain, or she permitted.

At length, my father expired: and some weeks afterwards, she renewed her entreaties and persuasions for me to procure legal advice for our guidance. I dared not deceive myself; but in proportion as my love for her augmented, my once confident hope of ever possessing her had declined. At length, trembling for her sake, and desperately desirous of putting an end to the distracting uncertainty in which I existed, I hastened to the nearest advocate; and unreservedly confided to him every circumstance of our situation. He inspired me with hope, instantly dispatching a petition in my name to the Holy Ecclesiastical Court for a dispensation: but, either from ignorance or carelessness, (for I would not willingly impute worse motives to my countryman) he touched so lightly on the important

point of the unconsummated, yet legally concluded marriage, that a double motive, and a dark, artful design were, with too great seeming justice, afterwards imputed to us on that account.

Imagine to yourself our transports of joy, when at the end of three weeks, we received the most ample permission to marry; and from a state of tormenting anxiety, we are at once elevated to the calm confidence of bliss in our approaching union. Can you doubt the purity of our attachment, when I affirm to you, by the Omnipresent Deity, that, notwithstanding this permission, notwithstanding she was my very shadow, and watched every look of mine to obey it: though I loved her with indescribable ardour, and thought of nothing but how I might best promote her happiness, and certainly might with a word, have induced a woman who loved me far better than herself, to dare every thing for my sake, I repeat that more than four weeks went by, without any thing more having passed between us, which we could not, without hesitation, or the fear of blame, have confessed to the severest inquisitor of our conduct.

We no longer kept our love or our intentions a secret from the world; but made open preparations for our approaching wedding, and by the singularity of the event, excited the curiosity and attention of our neighbours, already envious of our felicity. The magistracy interfered; commanded us to postpone our marriage, and made a report of the whole affair to the Ecclesiastical Court. God alone knows the reason which induced them to resolve upon a new proceeding, which annulled their former decision; but sure I am, that the distraction of the unfortunate traveler, who feels himself reclining down the edge of an unfathomable precipice, cannot be compared to mine, when was summoned to appear before them, and heard the overwhelming sentence which prohibited our union. And then her tears, her grief, her misery—to describe our feelings, would be far beyond my powers; I cannot will not—do it—it would only give unnecessary pain to your friendly heart, and shake that resolution which will ere long be so necessary for my own support.

Here the unhappy man paused for some minutes:—ears no longer to be restrained, burst from his eyes; and mine, I acknowledge, flowed freely: he perceived them, gratefully pressed my offered hand and continued his sad tale.

The decree of the church ordered us to remove to separate habitations, but neither forbade my seeing nor conversing with my step-mother, as she was now designated, as often as I pleased. All hope had not yet vanished, of once more changing our destiny by a new representation; and as my persuasions and arguments alone withheld the wretched girl from adopting the most desperate measures; and my own misery found its only relief in her society, now become indispensable to my happiness, I was by her side from morning till night, yet still guiltless as ever.

Alas! a neighbour who was often with us, and who manifested real compassion for our sufferings, had the imprudence one day to say before us, that were he in my place, he would not scruple to pursue another course—that the object of the court, was merely to extort money from us, and that in his opinion, a living proof of our love, would procure a permission for our marriage, sooner than all the advocates in Germany.

Of what use would it now be to me, worthy sir, to boast of forbearance which can no longer gain me any advantage or avert my fate; but my own heart tells me that even this alluring sophistry would have failed to work its effect, had it not made a deeper impression on her mind than on mine. Her persuasions, arguments, and entreaties, once more conquered my resolution; and fondly cherishing the pleasing anticipation of future happiness, which her ardent imagination suggested, in a fatal moment, we followed his rash counsel.

Whilst inwardly convinced of the innocence and rectitude of our intentions, we indulged ourselves in a dream too blissful to be durable, she felt that she was soon likely to become a mother. With a tender embrace, her eyes raised in gratitude towards heaven, she communicated this intelligence to me; attempted not to conceal her situation from her friends; on the contrary, proclaimed every where, that I was the father—that she never would acknowledge any other for her

husband but me, and that, already, in the sight of God, she considered me as such, trusting that the event would facilitate the dearest wishes of her heart—our so long contracted union. In short, by the intentional publicity we gave to the affair, it quickly came to the knowledge of the magistracy, who once more resolved to interfere, and summoned us to appear before them. Neither of us hesitated to confess the whole; and the natural, though by us unforeseen consequence of our avowal, was a fresh investigation, immediate separation and imprisonment, which however, was, for her, mitigated to confinement to her own house. Even yet I believe, and my friend, the advocate, before-mentioned, confirmed me in my opinion, that the whole might at last have been happily brought to a conclusion, had not an unexpected event confounded all who were favourable to our cause, and plunged us in disgrace and misery.

To be brief, she, to whom confinement and separation from me were insupportable, attempting to escape, was detected, brought back, and, notwithstanding her condition, treated with inhuman severity. At this news, my former patient endurance was changed into despair and madness. Flight and her deliverance, were, from that moment, the sole and anxious objects of my thoughts; and, in the state of mind, in which I then was, I considered but how to accomplish the first, without having imagined the means, by which I could effect the second.

I contrived to make my escape unobserved, that very night: and I was already beyond the walls of my prison, ere I reflected how I could succeed in rescuing her and carrying her off with me. Whither she would flee, or how we should live, seemed at that moment, trifles, which necessity would easily and quickly teach us.

How to get to her was my only difficulty. Were I once taken, nothing could be more certain, than that I should be closer confined than before, and deprived of every future chance of escape. What was to be done for our preservation must be quickly done, as I could not assure myself that my absence would remain undiscovered another hour. Whilst a thousand plans, no sooner formed than rejected, rushed across my mind, the idea presented itself of setting fire to the house, or rather wooden hovel, in which she was confined; and, amidst the alarm and confusion this would occasion, to force my way to her, bear her through the flames, support her in our flight, whilst my strength sufficed, and to trust to circumstances for the rest. This project was no sooner conceived than executed: a neighbouring lamp afforded me fire, and the dry wooden work of the house soon burst into a flame. I was, unrecognized, among the first to give the alarm, rushed safely through the flames, and bore her, half dead with terror and surprise, beyond the city gates. But, alas, how seldom does our strength second our will! The exertions I had already made—the weight of my beloved burthen—the length of the way, and my own bodily weakness from long confinement, overcame me about a mile from the gates of the town, and I sank senseless upon the ground, exhausted by fatigue and loss of blood from a wound I had received in my neck during the fire. My unhappy partner attempted to support me, but in vain; her weakness required assistance for herself—Besides, we were already missed, our pursuers arrived, secured us, and once more dragged us back to our prisons.

I was now, as I had foreseen, and dreaded, more closely confined than before, and my death unavoidable; but even this reflection strengthened my desperate resolution, once more, to dare all hazards—to succeed or perish. My jailer belonged to that class of rough hardened wretches, in whose breast every feeling of humanity seems totally extinct. One day I surprised him asleep. Despair gave me strength; I found means to get rid of my chains, stole the key out of his pocket, and was already half out of the door, when he awoke, and sprang furiously after me. I was the younger, and, in the scuffle which ensued, proved likewise the stronger. I grappled with him, and seizing him by the throat, fastened him with so firm a grasp to the wall, as to render it impossible for him to cry out for assist-

ance. I then demanded of him to swear not to betray my escape, but instead of replying, the wretch, unperceived by me, drew a knife from his pocket, with which he attempted to stab me in the back. I, however, wrested it from him; and as it clearly perceived, that if he lived all chance of saving my own life was lost, I buried it twice in his throat, left him dying on the ground, and fled. Again I reached her I adored in safety; for she was, I well knew, on account of her dangerous state, allowed to be at liberty on bail—and once more we resolved to fly together. But the retributive arm of the avenger of blood was close behind us—we were pursued, retaken, and now within a few days, an ignominious and inevitable death awaits me. Oh, how welcome to me is its approach!—Is it possible, think you, I can regret to leave a world which has branded my name with infamy, and heaped upon my soul an accumulated mass of the deepest and most irreparable misery? Here the unfortunate man concluded his history, and heroically has kept his promise of patiently, yet firmly submitting to his fate. Oh! I could tell you much of his courage in the last awful hour—of his heart-rending interview with his miserable wife—of his repentance, piety, and holy confidence of pardon, but you must forgive me if I break off this long letter abruptly. This poor youth has become so dear to me, that I cannot think of him without tears; and if yours have not already fallen over his melancholy history, the blame must lie upon the unskillfulness of my description which may have weakened the interest and compassion his unhappy fate would otherwise have excited.

A RECEIPT TO DESTROY FLIES.

These troublesome insects may be effectually destroyed without the use of poison. Take half a tea-spoon full of black pepper in powder, one tea-spoon full of brown sugar and one table-spoon of cream, mix them well together, and place them in the room, on a plate where the flies are troublesome, and they will soon disappear.

THE FARMER.

BALTIMORE, FRIDAY, JUNE 25, 1819.

In this paper we have the pleasure to insert, the first, of a series of numbers on HEDGING—a subject worthy of the deepest attention, yet very little understood or practised in Maryland. We have obtained permission to state, that these essays come from the pen of CALEB KIRK, of Delaware, and may be considered as the detail of twenty years of actual experiments. The name of the author, and the length of his experience, give ample assurance of the integrity and the value of all he says.

TO THE EDITOR OF THE AMERICAN FARMER.

SIR—When canine madness, (as it does at present,) appears in remote places, at the same time, it is epidemic, therefore, more prevalent than when sporadic, or propagated by the bite only, consequently additional precaution towards it, becomes necessary, and that alone is ample security. It is a primary disease with dog species only, as an epidemic, although generating a poison that acts on most other animals. Dogs, therefore, should be closely watched by their owners and confined, on the slightest appearance of indisposition. The first symptoms are drooping of the ears, tail and head, a dull, watery eye, drawing up in the loins, indifference to food—changed appetite and manners—then stupor and inattention, shown by running against persons and things, and finally wildness, &c.—It is pro-

bably curable in dogs, by emptying the stomach, and salt diet—When propagated by the bite, it seems to be universally fatal, a disorganization of certain nerves, indispensable to vital functions, having been effected by the poison before its operation is discovered, neither are there any medicinal preventives against it. On no subject has human ingenuity been more extensively or eagerly exerted, from the beginning of known time, to this. But the surgical antidote, is unquestionably infallible, and may be easily applied by the clumsiest and most timid hand. The bite of a mad dog is always superficial and in safe places to cut, being on the convexity or exterior of the body, while the vessels and nerves run in the hollows of it, and may be felt thumping to the touch, cut out then the part bitten beyond the length of a dog's tooth, instantly, and if it spouts blood, stop it with the finger, gently pressed on the orifice, until a surgeon is called. MEDICUS.

The Act, providing for the separation of the District of Maine, has passed both houses of the Massachusetts Legislature. In the House of Representatives, the bill was carried by 198 to 57. The town meetings in the District, are to be holden on the 26th of July, and the votes are to be returned to the proper office on or before the fourth Monday in August. The separation is to take place, provided there should be, in the whole District, a majority of 1500 votes in favour of the measure.

Present Prices of Country Produce in the Baltimore Market.

Tobacco—has considerably improved, since our last report. Particular inquiries, authorize us in quoting Patuxent Tobacco, common quality, at 8 and \$10—best, 10 a \$12 Eight hogsheads of wagon Tobacco, made by H. C. HOBBS, Frederick county, very fine quality, sold on Wednesday, for \$12 50—and a crop of ANDREW MERCER's, same county, averaged yesterday, about \$11—Two hogsheads *James River*, good quality, sold by Messrs. PLEASANTS & SON, this week, for \$7—Wheat, red, from Kent county, sold yesterday morning at \$1 12 1-2—Corn 50 to 52—Rye 70—Oats 50—Liverpool Brown Salt, retail, per bushel, 75 cents—fresh Pork 8 to 10 cts. per lb.—Chickens 25 to 37 1-2 each—Beef, best, 10 to 12—Veal, per lb. 7 to 10—do. per qr. from the wagons, 1 25 to \$1 50—Mutton 6 to 8—Potatoes 37 1-2 to \$1 per bushel—Eggs 25 per doz.—Hay, best Timothy, \$16 per ton—Straw 15 to \$16—Butter 20 to 25.

To make Ginger Beer—a very agreeable, cheap, and wholesome beverage.

Take of Water 6 gallons; Brown Sugar 5 1-2 pounds; Brandy 2 quarts; Lemon Peels 1 dozen; a race of Ginger, 3 ounces—and one pint of Yest.

The Yest to be put in the keg first, and the other ingredients to be boiled all together, and suffered to stand until milk-warm; then to be poured on the Yest and left to ferment for 24 hours. Then stop the bung hole and let it settle a day or two before you bottle it off.

Patent Self Feeding Wheat Fan.

HENRY HERRING, No. 17, N^o Elderry's Wharf, Baltimore, is the sole proprietor of Jacob

BROMWELL'S Patent Self Feeding Wheat Fan, for the Atlantic States.

He informs farmers generally, that he has on hand, and manufactures daily, WHEAT FANS on the above plan, which he will warrant to be superior to any WHEAT FAN now in use, in the United States.

The price of the above Fan is \$45 and should any Gentleman purchase one, and not find it as represented, Mr. Herring leaves him at liberty to return it, and pledges himself to return the money paid for it.

WHEAT FAN makers, or others wishing to make Fans upon the above plan, can have the privilege, by paying \$5 for each Fan for the term of fourteen years.

The public are hereby informed, that all patent rights granted by me for using Jacob Bromwell's patent self feeding wheat fan, are issued upon an engraved plate representing the Fan.

HENRY HERRING.

Sole Proprietor for the Atlantic States.

We the undersigned, of the city of Baltimore, have seen and examined Jacob Bromwell's Patent self feeding Wheat Fan, as manufactured by HENRY HERRING, and have no hesitation in recommending it to the farmers, as the best we have ever seen, and particularly well calculated for the cleaning of large crops.

The principle of Self Feeding, being, in our opinion, the most simple, and at the same time the most efficient that can be imagined, and the least liable to get out of order.

ED. JOHNSON, Mayor. | W. Mc. DONALD & SON,
RICHARD FRISBY, | DOCT. JAMES STEWART,
RICHARD CATON, | ROBT. MILLS, Architect.

This Fan, as to size is precisely that of the common kind, and differs from them only in the hopper, feeder, and shoe.

The hopper being upright on the sides, and bevelling at both ends, to the centre, within about 9 inches at the bottom, in which is placed the feeder, which is a fluted or toothed roller of about 8 inches diameter, the full width of the Fan—and put in motion by a band chain, leading from the band wheel attached to the feeder, to another behind the main cog, or driving wheel of the Fan, which gives the feeding motion the same as the turning of the Fan, either fast or slow. The wheat and chaff thus passing over the feeder, in a thin, broad sheet the full width of the Fan, has to fall about a foot upon the riddle, thereby enabling the wind to act upon the smallest particles of chaff before it touches the shoe.

The shoe is made to receive the different kinds of riddles necessary to clean all kinds of grain; and to correspond with the hopper and feeder, being entirely open on the back part, and placed a foot below the feeder, in order to let the blast of the Fan operate on the chaff as it falls. The shoe being hung in straps and put in motion by an arm tumbler and spring, works very light. The screen is that of the common kind. The advantages of this Fan over those now in use, are, FIRST—That of chaffing 120 bushels of wheat an hour, (or as fast as three men can fill the hopper) which Mr. Herring warrants it to do, and to do it well, and

SECONDLY, without the disagreeable necessity (as in the common way) of feeding with the hand, which every farmer knows must be done with the common kind of Fan, when the wheat is trodden

or got out with machinery, and the chaff coarse, which is the most disagreeable part of cleaning wheat.

This Fan has also a decided advantage in the second time through, over the common kind, in the feeding, as it always exposes a broader surface of wheat to the action of the wind

An elegant engraving representing the construction of this admirable Fan, accompanies this number of the *American Farmer*, and though not exactly the size of our sheet, will very well admit of being bound in the first volume of this work.

Garrick used to employ one Stone to pick him up low actors;—he was to find him a Bishop of Winchester, and had engaged one. Not long before the play began, he sent the following note to Garrick:—

“Sir.—The Bishop of Winchester is getting drunk at the Bear. He swears d—mn his eyes if he'll play to night. W. STONE.”

Garrick's Answer.—“Stone the Bishop may go to the Devil. I don't know a greater rascal except yourself. D. GARRICK.”

It was told Lord Chesterfield, that Mrs. M. a termegant and scold, was married to a gamester; on which his lordship said, “that cards and brimstone made the best matches.”

Buck, the player at York, was asked how he came to turn his coat twice: he replied smartly, “that one good turn deserved another.”

On Sterne's entering the coffee-room at York, a Mr. A. staring him full in the face, said, he hated a parson; upon which Sterne said “And so, sir, does my dog, for as soon as I put on my gown and cassock, he falls a barking.” “Indeed,” replies A “how long has he done so?” “Ever since he was a puppy, sir,” answered Sterne, “and I still look upon him as one.”

From late London Papers.

EXECUTION

APRIL 28. On Wednesday last, George Warden was executed at Edinburgh, for “abstracting” money from letters in the Post Office in Aberdeen, where he was employed as a clerk.—He died very patiently; and just before he was swung off, fainted, and excited much sympathy in the immense crowd of spectators which his execution had collected together. The following is the DYING DECLARATION of this young man:—May it prove a monition to men in office—clerical as well as laymen—who are in the habit of *sponging* their dependents.

“Edinburgh April 13, 1819.

“In order that the truth may hereafter be investigated, and that injustice may be prevented to the young men, clerks in the different post-offices, and that they may not be tempted by poverty, or the oppression of their superiors, to break their trust, and like me to expiate their guilt on a gallows, I deem that it may be of use, that I leave behind me on record, a declaration of the truth, as to the actual amount of my allowance from the post-office of Aberdeen, which was only 40*l*. I am by no means actuated, in this my last declaration, by any feeling of realice or revenge against the person of Mr. Dingwall; but I do so with the hope of saving others from being in any way under the necessity of committing a similar crime; because had I been paid the salary allowed by government, the

temptation in my power would not have been avoided. At the same time I return my sincere thanks to the clergymen and others, for their kindness in visiting me while under sentence: and, in justice, I cannot omit to mention the kind treatment I received from the Governor, Mr. Sibbald, in making me as comfortable as my situation would admit of. I die in peace with all men and in the humble hope of pardon from God, for my sins and offences against the public. GEORGE WARDEN.

“P. S. I have to contradict the printed poem that was sold through the city of Edinburgh, as it was never written by me. I also deny that I ever abstracted but 5*l*. from letters coming through the post office of Aberdeen. G WARDEN”

POETRY.

THE BUTTERFLY AND THE SNAIL.

ALL upstarts, insolent in place,
Remind us of their vulgar race.

As in the sunshine of the morn
A Butterfly (but newly born)
Sat proudly perching on a rose,
With pert conceit his bosom glows;
His wings (all glorious to behold)
Bedropt with azure, jet, and gold,
Wide he displays; the spangled dew
Reflects his eyes and various hue.

His now forgotten friend, a Snail,
Beneath his house, with slimy trail
Crawls o'er the grass, whom when he spies,
In wrath he to the gard'ner cries.

“What means yon peasant's daily toil,
From choking weeds to rid the soil?
Why wake you to the morning's care?
Why with new arts correct the year?
Why grow the peach with crimson hue?
And why the plum's inviting blue?
Were they to feast his face design'd,
That vermin of voracious kind?
Crush the slow, the pilfering race,
So purge thy garden from disgrace.”

“What arrogance! (the Snail replied)
How insolent is upstart pride!
Hast thou not thus, with insult vain,
Provok'd my patience to complain,
I had conceal'd thy meaner birth,
Nor trac'd thee to the scum of earth;
For scarce nine suns have wak'd the hours,
To swell the fruit and paint the flowers,
Since I thy humbler life survey'd,
In base, in sordid guise array'd;
A hideous insect, vile, unclean,
You dragg'd a slow and noisome train:
And from your spider-bowels drew
Foul film, and spun the dirty clue.
I own my humble life, good friend;
Snail was I born, and Snail shall end.
And, what's a Butterfly? at best,
He's but a caterpillar drest;
And all thy race (a numerous seed)
Shall prove of caterpillar breed.”

A FRAGMENT.

***** In the sheltering grave the wo-fraught heart will be at ease: the clouds of anguish which darken life's short day pervade not that still retreat. The poisonous breath of calumny and the envenomed tongue of envy, here lose their corroding influence. The sympathetic mind agonized by distress, unable to support the storm of ill-fortune, sinks calmly into the embrace of death, into the placid enjoyments of uninterrupted tranquillity. Oppressed virtue finds a secure asylum for overbearing greatness; and the upbraiding charity of proud opulence is no longer painful to its object. The distinctions in society, which consign merit to oblivion and raise the worthless from the dust, are here forgotten. Unfeeling pride is disrobed of its splendid covering, and the gorgeous mantle is torn from the shoulders of the undeserving. Humble worth ceases to kneel

suppliant at the feet of affluence, the lorn offspring of poverty fails to entreat from avarice the stunted boon. The victim of malevolence, who essays in vain, to parry the thrusts of unmerited obloquy, glad that in death the dagger of contumely wounds not, welcomes with joyous aspect the closing period.

THE IRISHMAN.

From the Gleaner.

Mr. Editor,

The Irish are proverbially hospitable. Travellers, orators, essayists, poets, all are liberal in their encomiums upon Irish hospitality. I beg leave to relate a little incident which occurred in the United States, from which it will appear that Patrick O'Flaherty took a very strange method of showing this characteristic virtue of his countrymen. During the late war, a poor and miserable soldier, having received an honourable discharge from the American army, was returning home to New York; naked, penniless, and crippled by a musket ball, which he received at Fort Erie, under the gallant Gen. Gaines. It was night when he reached the snug and comfortable mansion of Patrick O'Flaherty. The poor fellow, exhausted with fatigue and hunger, knocked at Patrick's door, and begged quarters for the night, when the following conversation ensued between them:

Patrick And who in the devil are you now?

Soldier. My name is John Wilson.

Pat. And where the devil are you going from John Wilson?

Sol. From the American army at Erie, Sir.

Pat. And what in the devil do you want here?

Sol. I want shelter to-night—will you permit me to spread my blanket on your floor and sleep to-night?

Pat. Devil take me if I do John Wilson—that's flat.

Sol. On your kitchen floor, Sir?

Pat. Not I, by the Hill of Hoath—that's flat.

Sol. In your stable then?

Pat. I am d—n'd if I do that either—that's flat.

Sol. I am dying with hunger—give me but a bone and a crust; I ask no more.

Pat. The devil blow me if I do, sir—that's flat.

Sol. Give me some water to quench my thirst, I beg of you.

Pat. Beg and be hanged, I'll do no such thing—that's flat.

Sol. Sir, I have been fighting to secure the blessings you enjoy: I have assisted in contributing to the glory and welfare of the country, which has hospitably received you, and can you so inhospitably reject me from your house?

Pat. Reject you! and who in the devil talked a word at all at about rejecting you? May be, I am not the scurvy spalpeen you take me to be, John Wilson. You asked me to let you lie on the floor—my kitchen floor! or in my stable! Now, by the powers, d'ye think I'd let a *perfect stranger* do that, when I have half a dozen soft feather beds, all empty! No, by the Hill o'Hoath, John—that's flat. In the second place, you told me you were dying with hunger, and wanted a bone and a crust to eat—now, honey, d'ye think I'd feed a *hungry* man on bones and crusts, when my yard is full of fat pullets and turkeys, and pigs? No, by the powers, not I—that's flat. In the third place, you asked me for some simple water to quench your thirst—now, as my water is none of the best, I never give it to a poor traveller without mixing it with a plenty of wine, brandy, whiskey, or something else, wholesome and cooling. Come into my house, my honey; devil blow me, but you shall sleep in the best feather bed I have; you shall have the best supper and breakfast that my farm can supply, which thank the Lord, is none of the worst—you shall drink as much water as you choose, provided you mix it with plenty of good wine, or spirits, and provided also, you prefer it. Come in my hearty—come in, and feel yourself at home—it shall never be said, that Patrick O'Flaherty treated a man scurvily who has been fighting for the dear country which gave him protection—that's flat.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norunt
Agricolae." . . . VINE.

VOL. I.

BALTIMORE, FRIDAY, JULY 2, 1849.

NUM. 14.

AGRICULTURE.

From the Memoirs of the Philadelphia Agricultural Society.

Notices for a Young Farmer, Particularly one on Worn Lands, &c. &c.

WITH NOTES BY THE EDITOR OF THE FARMER.

(Concluded from No. 13, page 98.)

Dogs to be trained discreetly, to prevent bad habits; and especially in regard to sheep-killing. Carelessness in those who leave temptations in their way, a principal cause of this propensity.

XXI. Familiarize your young dogs with sheep, and correct them when they chase or annoy them, and they will protect, in place of injuring your flocks. Dogs become sheep-killers, by neglect in training them. Starved curs prowl for prey, and become savagely mischievous. Those who do not pen their sheep, and bring them home at nights for protection, but leave them in distant fields, expose victims to such dogs; and they ruin even innocently inclined dogs, by throwing temptations in their way. They have no right, therefore, to complain of injuries. Good and faithful dogs are as necessary on farms, as sheep.

Accustoming dogs to feed on raw and bloody food, renders them inclined to seek it. The sight or smell of blood, infuriates many animals. Horned cattle are peculiarly affected by it. Not only dogs, but horses, operated on by the sight or smell of blood, have been known to be seized with fits of sudden rage; and instances can be related, in which they have dangerously attacked persons whose garments had been stained with, or smelt of blood, although commonly familiar with them. Animals (man included) become habitually and culpably fond, of what, at first, may have even excited antipathy and disgust. Sheep-killing begins in wantonness, and ends in vice, and is a species of canine madness. The confirmed blood sucking sheep killer, acquires a wild shrill bark, different from that of other dogs. Shameful negligence in not burying dead carcasses, not only reflects disgrace on those who permit such nuisances, on other accounts, but the dogs of a whole neighbourhood are often ruined, by such temptations to savage propensities.

Farm dwelling houses, and other buildings; observations concerning them, and the situations in which they are placed. Stables for horses and cattle. Pens for swine, and mode of feeding them. Cleanliness as to all places where live stock are kept, recommended.

XXII. Do not commence with erecting costly buildings; but apply your time, efforts, and pecuniary means, to your farm; and shift on with tolerable accommodations, until your fields warrant your providing better. Want of calculation in this regard, when their funds have been limited, has injured and depressed many beginners in farming, who have erected expensive houses, which have exhausted their means of improving their farms; and capacious barns, with little to store in them. If difficulties in their affairs compel them to sell, they find, that, however expensive may have been the buildings and accommodations, a poor farm must be parted with at a very inferior price; and the buildings are sel-

dom duly appreciated, in a calculation generally made on the value *per acre*. When the farm becomes productive, it seldom, if ever, happens, that the barn is too large. The most general mistake is, that it is too small; and most commonly, the floor is too narrow for treading out crops with horses, or using our simple machines for threshing; which, though not so powerful, are tolerable substitutes for the complicated and expensive, however valuable, inventions, with which, in some parts of Europe, grain is threshed out. In the moist countries of Europe, wherein there are late harvests, stacking is preferred to confining grain in barns, which is said to be injurious on account of retaining dampness, and promoting mouldiness in both grain and straw. But in our climate, favouring early harvests, with generally fine weather, no such consequences follow; and barns are all essential. In the southern parts of our country, they are dispensed with too negligently and unprofitably. The great farmers tread out their grain from the harvest field, or from stacks, as promptly as possible. By this means, the grain is at market before the moth fly is grown sufficiently to injure the flour, and thus they have almost conquered that pest. And this, in some degree, justifies their lack of farm buildings; save that in covers for their farm stock, they are lamentably deficient.

Let your dwelling house and its appendages, be to leeward, (as it respects commonly prevailing winds, those in winter especially, when fires are constant) of your barn and stack-yard; and sufficiently distant from them to avoid accidents by fire. Lights should be, as much as possible, forbidden in your barn and stables, and suffer not the reproach of omitting the common guards to your buildings, against lightning. Their being placed near water conveniences, may answer some purposes; but this should generally be avoided, especially if streams be large and dull, or collected in stagnant pools. Low and damp sites for dwelling houses, generally produce fatal consequences to their occupants. Leading distant springs or streams to your homestead, or digging wells may be costly and inconvenient; but health and comfort are thereby ensured. When buildings and other improvements are placed too near mill-dams, or rivers, and streams subject to floods, repentance comes too late, after ruinous consequences have suffered by such want of foresight and calculation.

Stables for horses should not be too close. Diseases are generated by confined air; and horses kept too warm cannot safely encounter cold and wet. Fattening cattle and sheep in sheds open to the south, and suffered, in good weather, to run out in yards, are always hardy, healthy, and thriving. Swine kept in too warm, and more so in filthy pens, are ever subject to diseases and unprofitable feeding. There is no greater mistake, than that of gorging swine, when first penned for fattening. They should, on the contrary, be moderately and frequently fed; so that they be kept full, but do not loathe or reject their food; and in the end, contract fevers and dangerous maladies, originating in a hot and corrupted mass of blood; against some of which, dry rotten wood, as an absorbent, and, some allege, *smith's cinders*, thrown in their pens are preventives. In airy and roomy, yet moderately warm pens, paved or boarded and often cleaned, they are healthy and thriving. They show a disposition to be cleanly, however otherwise it is supposed; and they always drop their ejections in a part of the pen different from that in which they lie down. No animal will thrive, unless it be kept clean. When cleanliness becomes habitually practised, it is easy to preserve it. But if filth be

suffered to accumulate, the removal is a task—irksome and procrastinated.

Accounts of receipts and expenditures, and Notes of farming occurrences, to be kept.

XXIII. Keep accounts of all your expenditures and receipts; and notes of remarkable occurrences on your farm. Recording even your errors will benefit yourself in future avoidance and become warnings to others. Your successful practices will be examples. You owe it to yourself, your children and your country, to register and promulgate them.

Reading on agricultural subjects, recommended.

XXIV. Read, and do not slight either foreign or domestic books of reputation for principles and practice on agricultural subjects. Climates may and do differ; but principles are invariably the same. If you have, as you ought, a desire to be well acquainted with your art, gain some knowledge of subjects elucidating its principles and particularly of chemistry, as connected with agriculture; although you need not aim at being a perfect Chemist, nor qualify yourself as a disputant on theories and vain and unprofitable discussions, which produce no beneficial result; but, on the contrary, bewilder those to whom information of plain principles and facts, and practical lessons, are the most necessary.

Home's Principles of Vegetation, Darwin's Phytologia, Hunter's Geographical Essays, Anderson's Essays, Lord Dundonald's Connexion of Agriculture with Chemistry, Davy's Agricultural Chemistry, are among the books, giving a general view of principles; and books of practice you can obtain at pleasure. The former you can use as lawyers read Blackstone's Commentaries; and the latter as they apply to reports for detailed and practical information.

Experiments useful and necessary; but settled practice should not be disregarded. Profits of farming; observations respecting them.

XXV. Experiments are highly commendable, but do not set out as an habitual experimenter; as if husbandry were a new art, (however defective it may be) and every thing depended on your own discoveries. In such case, you would consume your labour, time and means, which should be devoted to settled and known practice, in pursuing your own suggestions; or in clearing up your doubts on the experience of others, most probably unprofitably and unnecessarily. Listen to intelligent and successful practical men, whom you will easily distinguish among your neighbours. Do not imitate the exclusive self approbation of too many farmers, who impatiently and heedlessly wait whilst information is offered, until they can relate what they are doing, and have done. Yet where even a failure will be attended with no serious injury or expense, fear not to attempt an improvement or discovery, although the endeavour may be unprecedented. It most assuredly requires experiment to adapt foreign practice to our climate and circumstances; and to make essays to change or meliorate our defective usages. But we are not so far behind, as that most of the common operations are not well understood and reputedly executed.

It is not intended to say any thing on the subject of profits of husbandry, as these depend so much on the circumstances both of the farmer and the farm, accordingly as its culture is applied to grain or grass, or mixed husbandry, and the management and economy with which its business is conducted; that no calculation can be made, on general principles, with

any degree of correctness. Those, however, who breeding, many of their eggs being barren. Those do not personally labour, and have every thing to laying fewer eggs, more frequently incline to incubate or purchase, should moderate in their expectations; and for them a grazing farm would be the most eligible. But a farmer on his own farm, as is the case with most of our husbandmen in this happy country, wherein they are burthened with no tithes, heavy rents and oppressive poor rates; and pay, comparatively with other countries, light taxes; helping themselves and assisted by their families;—thus avoiding the payment of much wages to hirelings; and, of course not subjected to their caprices, vices, idleness, and defalcations; contented with wholesome subsistence, in great plenty, and reasonable profits; can live well and independently, with even a tolerably good system of husbandry; and sit "every man under his vine and under his fig tree, and none shall make them afraid."

Those who wish for enjoyments comparatively elegant and luxurious, must depend on other resources than those of a mere farmer on a moderately sized plough farm, producing chiefly grain; or even a grass farm of reasonable extent; but with every additional resource, they will not be a jot the happier in real comforts, though their habits may require artificial substitutes for them.

A farmer can be a well informed gentleman, according to the true import of that appellation, without the imitative and shadowy pretensions of many who affect that character, which does not consist in expensive display. Let his motto be, *esse quam videri*; to be and not merely to seem; and his station in society will be respected, as it merits, for useful actions, and he may be distinguished for politeness and suavity of manners, without the tinsel of affectation and insincerity. He will be more esteemed, the more he accommodates his wants and habits in his circumstances.

Poultry

XXVI. A farm homestead is enlivened by poultry, and family comforts are much increased by their eggs and young. But their numbers should be kept within bounds, and their kinds prudently selected, as some are less inclined to wandering and mischief, than others. *Turkeys* are the most mischievous and offensive; and *geese* are predatory trespassers, very voracious, and injurious to grass grounds. It is questionable, whether the balance of the account, giving credit for their market price, (and some believe it might be doubled) be not much against both. So that, in many situations, it would be, perhaps, most economical, if they must be had, to buy them for the table. Dung-hill fowls, of innocent breeds are preferable to either. Confiding these too much has not been found eligible; and high feeding is not promotive of, but checks, fecundity. It also destroys one of their uses, by making it less necessary and desirable to them to seek for and destroy insect and other pests to your garden and fields. They thrive better when kept in good condition, and by moderately feeding them at home, they return from wandering, and preserve their domestic habits. They often injure the garden; but some gardeners think that they do more good than harm, by devouring insects and noxious vermin. The absence of *wild birds*, whether owing to irregularities of seasons, or wanton destruction, is often seriously felt in the increase of insects on our farms. The depredations of *birds* are fully compensated by the services they render to us; whilst, for their own support, they are preying on our enemies. Our poultry are entitled to regard on this account. They may be broken of bad habits, by checking intrusions, and feeding them exclusively, in places distant from the garden. Those who find them ungovernable and too mischievous, may keep them in poultry yards, or banish them entirely. *Pigeons* are seriously mischievous, and should either be kept in small numbers, or not at all. *Guinea fowls* lay abundance of eggs, though in some cold countries it is otherwise. But they are inveterate enemies to other poultry. Fowls, however, laying the most eggs, which they can do without frequent congress with males, or are not remarkable for

associated with him, as well for protection as from habitual attachment. Farming instruments, implements and tools to facilitate agricultural operations: Some observations respecting them. XXVII. Few farmers attend, sufficiently to the necessity of providing the best, (and the best are generally those the least complex in their construction,) as well as the most appropriate INSTRUMENTS OF HUSBANDRY; and the implements, utensils, and tools of their trade. All occupations require those who follow them, to be closely attentive to the means of carrying them on with facility of execution and consequent profit, by tools appropriate to every operation in their business. But a plough or two, some common harrows, a cart or wagon, with some ordinary tools used in common and minor operations, (on generally fill the catalogue of farming instruments and implements. Ploughs should be various, and calculated for different uses. Among them is a plough introduced in the hilly country of Virginia by Col. Randolph, for ploughing, *horizontally*, mountainous or hilly lands. An account of it will be seen in the 4th vol. of the Philadelphia Memoirs, in a letter from Mr. Jefferson. The like practice is followed by the Germans inhabiting mountainous countries; but their ploughs with shifting mould-boards are differently constructed from that mentioned. Every farmer should accommodate his instruments to the local situation and attributes of his farm; as well as to the uses common to all situations. Harrows should be constructed for the variety of purposes required in good husbandry. Coniter and hoe harrows, as well as others adapted to different operations should be possessed by every good farmer: and among the less instruments, the horse rake should be better known and more generally used. This saves much manual labour in gathering hay; and is peculiarly fitted for raking grain fields, (the borders whereof, after being reaped, should be cut with the scythe, or cleared otherwise of weeds,) so that quadrupling the expense and labour of the operation is gained by the saving of grain which would otherwise perish. See 3d. vol. Philad. Memoirs, 212, 15. There are hand-rakes for this purpose, wherewith one labourer will do as much work as two or three with the common rake. The roller both plain and spiked, is as essential as any other instrument, yet is not so common as it ought to be. Riddles and screens for cleaning our grains, are highly improved of late years: yet few farmers possess the best. The potato riddles are great facilities, to save time and manual labour, in sizing and separating those roots whilst gathering; yet few possess them at all, and others have them badly constructed. Improved cutting machines will be found all essential, when the practice of chaffing hay and other provender becomes duly appreciated. No pains or reasonable expense should be spared, in substituting some effective threshing machines for manual labour, and thereby overcoming one of the greatest embarrassments in our rural affairs.

Hen houses and nests should be kept clean; nor should they be kept too close and warm. Filth generates vermin, and heat is injurious both as it respects health generally, and particularly at the time of incubation when overwarmth in the hen is prejudicial to hatching, inasmuch that she frequently turns, and often leaves, her eggs to cool. Be careful to guard against the access of egg-suckers. Minks, rats, and weazles, are greatly so; and they and other such vermin are destroyers of poultry. Dogs are not much behind them in this propensity, and should be chastised and broke of the habit of egg-sucking, when young, they otherwise retain it through life.

The dung of poultry is well worth your care. It is so powerful, that it would fertilize, if even sown by handfuls and it must therefore be thinly scattered.

It must be seen, that many of these observations, as they relate to some kinds of poultry, apply to farms in a thickly populated neighbourhood where range is trespass. The kinds most noxious in confined situations, may be profitably and extensively raised in other districts of our country, wherein circumstances favour the breeding them. Too many cocks should not be kept. Their ferocity in combat, (the more frequently shown when extra numbers contend for the same object) is not a proof of their fecundating properties; and the gentlest and best formed should therefore be selected. One for every eight or ten hens will be sufficient. The others may be emasculated, and thus improved as an esculent highly valued where the practice is common. Capons are rare among us; but it is unaccountable why this addition to our fare has not been more attended to. Hens hatch only one brood, or two at most, in a season. A capon may be taught to hatch and most carefully rear and hover, several broods in the same year.

Runt and mean breeders, of either sex, should be killed. It is scarcely possible to prevent different breeds, in the same yard, from mixing. But if breeders are sizeable, it is by no means a subject of regret, that they communicate with each other. Crossing most commonly improves poultry, as it does other animals as well as plants. But they must not be of a distinct species, for some kinds produce, by mixing mules or hybrids which will not breed. The Mascovey with the common duck, affords a frequent instance of hybridious, and commonly barren, progeny.

A singular instance of the benefits derived from poultry, was presented to a number of respectable witnesses of the fact, some years ago, in a part of an unseated country in Pennsylvania, far removed from population. A solitary New England settler, was found clearing the woods and building a cabin for the reception of his family, who were to follow him with the rest of his stock. He had brought a number of poultry, and a flock were seen around him, which by their eggs, furnished the chief part of his support; and with this sustenance, he declared he was perfectly enabled to labour. Occasionally he procured some grain from distant settlements, which the fowls sparingly shared with him. This, and the precarious supplies of the forest, kept them and him in good plight. They never wandered, but always

associated with him, as well for protection as from habitual attachment.

Farming instruments, implements and tools to facilitate agricultural operations: Some observations respecting them.

XXVII. Few farmers attend, sufficiently to the necessity of providing the best, (and the best are generally those the least complex in their construction,) as well as the most appropriate INSTRUMENTS OF HUSBANDRY; and the implements, utensils, and tools of their trade. All occupations require those who follow them, to be closely attentive to the means of carrying them on with facility of execution and consequent profit, by tools appropriate to every operation in their business. But a plough or two, some common harrows, a cart or wagon, with some ordinary tools used in common and minor operations, (on generally fill the catalogue of farming instruments and implements. Ploughs should be various, and calculated for different uses. Among them is a plough introduced in the hilly country of Virginia by Col. Randolph, for ploughing, *horizontally*, mountainous or hilly lands. An account of it will be seen in the 4th vol. of the Philadelphia Memoirs, in a letter from Mr. Jefferson. The like practice is followed by the Germans inhabiting mountainous countries; but their ploughs with shifting mould-boards are differently constructed from that mentioned. Every farmer should accommodate his instruments to the local situation and attributes of his farm; as well as to the uses common to all situations. Harrows should be constructed for the variety of purposes required in good husbandry. Coniter and hoe harrows, as well as others adapted to different operations should be possessed by every good farmer: and among the less instruments, the horse rake should be better known and more generally used. This saves much manual labour in gathering hay; and is peculiarly fitted for raking grain fields, (the borders whereof, after being reaped, should be cut with the scythe, or cleared otherwise of weeds,) so that quadrupling the expense and labour of the operation is gained by the saving of grain which would otherwise perish. See 3d. vol. Philad. Memoirs, 212, 15. There are hand-rakes for this purpose, wherewith one labourer will do as much work as two or three with the common rake. The roller both plain and spiked, is as essential as any other instrument, yet is not so common as it ought to be. Riddles and screens for cleaning our grains, are highly improved of late years: yet few farmers possess the best. The potato riddles are great facilities, to save time and manual labour, in sizing and separating those roots whilst gathering; yet few possess them at all, and others have them badly constructed. Improved cutting machines will be found all essential, when the practice of chaffing hay and other provender becomes duly appreciated. No pains or reasonable expense should be spared, in substituting some effective threshing machines for manual labour, and thereby overcoming one of the greatest embarrassments in our rural affairs.

Agricultural Societies.

XXVIII. Encourage the establishment of an Agricultural Society in your neighbourhood, and contribute your share of useful information—Let it be furnished with a well selected, however small library, on subjects as well practically as theoretically connected with husbandry. Avoid turning it into a club for mere amusement, or topics of controversy and dissension: but let the objects of its meetings be confined to the improvement of its members in the business to which their lives are devoted. One of the great objects of such societies should be to enlighten the minds of our citizens, on the subject of roads, canals, and improving the navigation of rivers, bridges, and other facilities for transport. All the partial inconveniences of running through farms, payment of tolls and other minor objections, are no more than the dust of the balance, when weighed against their incalculable benefits to agriculture, arts, and manufactures.

Habits of Industry, Economy and Sobriety inculcated. Savings Bank. Friendly and Benefit Societies. Lancaster Schools.

XXIX. However unpromising may appear the task, use your endeavours to incite, and with address, mildly and moderately to invite, such of your neighbours who require and will listen to a benevolent *Mentor*, to habits of industry, economy, and sobriety: for such habits are the only requisites in this country, free from the impediments and disadvantages existing in many others, to enable every well disposed citizen to advance his interests and comfort. They are impenetrable shields against poverty and want. Point out to them the advantages of depositing a small portion of their earnings, in *savings banks*, or *well regulated friendly and benefit societies*, as sure resources against penury, and relief in sickness and incapacity to labour, as well as for the education of their children; to guard them against the miseries of unlettered ignorance and its companion, vice. And for this purpose, encourage and patronize the *Lancastrian* plan of teaching. It is the most practicable and effectual, as well as economical improvement in the means of education of young members of the community, unable in any other way to acquire learning, and to whose wants it is peculiarly adapted, that has ever been introduced among any people, and especially among our citizens, enjoying universal suffrage in our republican system of government. Knowledge and information, to qualify them to inquire and judge for themselves and not depend on assistance often seductively rendered, are essential to their freedom and happiness. This knowledge and information can only be acquired, through the facilities afforded by education, and what is called a common one, which must be gained in early life, is fully competent to all useful purposes for which they require it.

Religion and morality, to which all earthly considerations are of very inferior importance, will spread their benigo influences over minds enlightened by the information such means of attaining it will furnish. No people can be happy and no government, (especially one founded on republican principles) can be safe, when religion and morality, (twin sisters,) are not the predominant habits of the mass of its population.

Associations should be formed to moderate, if it cannot be totally abolished, the custom of dealing out to labourers, *ardent spirits*;—the most dangerous and destructive foes to the peace of a community, and to the prosperity and happiness of individuals afflicted by a propensity to use them incontinently. Those who furnish the means of destruction, are equally culpable with those who perish under their enticements.

If, out of county funds or by private societies, some premium or medal were given to poor parents, to encourage binding their children, often kept at home in illness and want, to regular trades, or employments in husbandry, much benefit would arise both to the parents and children. Hiring them to occasional labour, or in manufacturing establishments, conduces nothing to their permanent benefit, either as it regards education, morality, or final settlement in life. There is an unfortunate reluctance on this subject, which might be overcome by honorable notices and distinctions.

Savings placed in the way of accumulation, in the mode recommended, would enable persons in narrow circumstances, in a course of time, to establish themselves at home; or, if they are so disposed, in our new countries, when their families increase in numbers and strength. Plans of such banks and societies and of the schools mentioned, can be readily obtained. Dealers in ruinous temptations to waste time, health, and morality, will not have so many customers, when money, too often devoted to baneful dissipation, is saved for meritorious and salutary purposes; but our country will incalculably benefit by the increased numbers and vigour of its population. Youth and manhood would enjoy innocence and health, and penury would be averted from old age.

The less idleness and drink, the more bread. This remark would be unnecessary, could there be to whom it is applicable and monitory, be induced to follow the instruction, and feel the excitement, conveyed by the old but evergreen Apothegm:—

“Industry is the right hand of fortune; and frugality her left”

Conclusion and general observations.

XXX. If many of these *mementos* should be deemed trite and unnecessary, by men of agricultural intelligence, they will nevertheless, be found useful to beginners. The listlessness of old farmers, often requires something like Dean *Sawyer's* Flappers. What is considered as trivial, obvious and minute, requiring little exercise of mind or faculty, is overlooked and walked over every day without observation; yet such details and items are as essential to the great concerns of life, as are the letters of the alphabet and the common grammar rules to literature. The Germans have a homely but expressive axiom.

“*List ist besser als mist*” Skillful management is better than dung.—It has been the aim of the foregoing Notices, to unite the benefits of both. With skillful management, sterile and worn lands may be made durably productive.—Without it, the fertility of the richest soils is soon dissipated. Novelty or originality have not been the objects of this defective compendium. Facts and opinions are drawn together presumed to be warranted by experience, or collected from writers of reputation. Nor are any practices or opinions recommended as exclusively preferable, however pointedly they may be mentioned. They are intended as mere suggestions and hints to beginners, and not promulgated with any view to assume superiority of knowledge or judgment, over those who may consider other practices, or opinions, more correct.

It is a melancholly reflection, that the principles and practice of an art, on which the subsistence and comforts of the human race so materially depend, should still be subject to varieties of opinion and contrarieties in practice. Few of even the rude outlines of a subject so copious, can be comprised in a compass so narrow. Nor can it be expected that any more could be noticed, on many points, than the practices respectively mentioned, leaving the details of execution to be sought for in experience from practical monitors, or books.

The ART remains imperfect, although so many ages have elapsed since man was first doomed to cultivate the earth, and countless volumes have been written on the modes of fulfilling his destiny. Some humble it is, however, always derived from the most humble attempt at instruction, if it be received with candour and discriminating judgment. It would be as hazardous and vain, (though leading and settled principles are generally applicable,) to recommend the like practice in dissimilar soils and situations, as it would be for a physician to prescribe the same treatment and remedies, to patients differing in strength, constitution, and habits.

Interesting Extracts.

(CONTINUED.)

No. 3.—American Agriculture and Botany.

DE WITT CLINTON.

It has already become difficult to discriminate between our native and naturalized plants; with the progress of time the difficulty will increase, and it ought to be removed as soon as possible. From the vegetable kingdom man derives his principal food and medicine, and it administers to his wants and luxury in a variety of shapes. The botanists ought to attend to the substitution of indigenous medicines, of equal efficacy, to those imported; and also to the discovery of others whose qualities are now unknown, as applicable to the cure of diseases: he ought also to direct his attention to the discovery of indigenous resins; and of articles for dying, soap, lights, and

other branches of domestic economy.—America has furnished maize, or Indian corn, which may be compared with the best of the cereal gramina of the old world; she has also originated the potato, which has administered more to human subsistence than any other production whatever. There are probably other undiscovered legumens and gramina which may essentially contribute to the comfort and support of mankind. It is said that there is a natural meadow of vast extent in the Michigan Territory, which abounds with wild potatoes and artichokes; it would certainly be worth while to ascertain whether they are the real *solanum tuberosum* and *helianthus tuberosus*. (a) All the Indians of the northwest have, according to Pike, a species of wild oats for their only farinaceous food: we would rather suppose it to be a species of rice, as it is an aquatic plant; and if such stalk produces, as it is stated, half a pint of grain, it is undoubtedly an object deserving of attention. (b)

(a) This is probably the *glucine apios*, or wild potato, which is nearly as good as the common, and which was, when boiled, a favourite food of the Indians.

The Jerusalem artichoke, or *helianthus tuberosus*, grows spontaneously over the country, is sometimes brought to our market for sale, and is a wholesome, agreeable vegetable. This plant ought to be cultivated. It produces about four hundred and eighty bushels per acre. It flourishes in almost any soil, bringing invariably, a certain crop, and it is also proof against the severest frosts.

The bulb of arrowhead, or *sagittaria sagittifolia*, boiled, or roasted in hot ashes, was eat by our Indians. It tasted nearly like potatoes. It is commonly an inch and a half long, and one inch and a half broad in the middle, is sometimes as large as a man's fist, and grows in low muddy, and very wet ground. It composes a considerable part of the food of the Chinese, and is cultivated by them. It ought to be carefully guarded against swine, who eagerly devour it. In a valley to the west of the Rocky Mountains, which extends seventy miles, it is found in great abundance, and is a principal article of trade between the inhabitants of that valley and those of the sea coast.

Our Indians also made use of the root of a vegetable which they called *tawkin*, or *tuckah*, and which, Kalm says, is the *arum virginicum*, or wake robin.—When fresh it has a pungent taste, but when roasted it is like potatoes. It flourishes in moist grounds and swamps, and often grows to the thickness of a man's thigh, but is nearly extirpated by the hogs.

They also eat the dried seeds of the *orontium aquaticum*, called by them *tawkee*; they were boiled in water, and eat like peas, or made into bread. This plant was plentiful in moist and low grounds. Whortleberries, or huckleberries, were dried by them and made into a dainty dish, by being mixed with fresh maize flour, and baked. They also gathered and dried hickory and black walnuts; took out the kernels and pounded them as fine as flour; mixed this substance with water, which took a milky colour, and was as sweet as milk.

The tuckahoe (or tawkee, as Kalm supposes) was probably a native of this state. The lycoperden tuber of Linnaeus, called truffles, grows here and in New Jersey, and we have a place called Tuckahoe. These tuberous productions are not the same. The Indians made delicious bread from their farinaceous matter.

According to Lewis and Clarke, the Indians of Columbia river eat the root of a species of thistle, fern, rush, liquorice, and a small cylindric root, resembling in flavour and consistency the sweet potato.

(b) This production has been used by the Indians from time immemorial. In a curious book, entitled, A description of the English Province of Carolina, by the Spaniards called Florida, by the French *La Louisiane*, etc. by Daniel Coxe, esq. printed, London, 1721, it is thus described:—“besides, this country naturally affords another sort of excellent corn, which is

Lewis and Clarke have pointed out several vegetables unknown to us, which the Indians use. These and many other sources of inquiry are open to us.—The discovery of a new plant gives celebrity to a botanist; and, if useful to mankind, his fame is immeasurably enlarged. Before I conclude this subject, permit me to inquire whether the *cyrtopodium bulbosum* has ever been seen in this country? I ask this question, because Acerbi, in his Travels, has made the following observations respecting it:

the most like oats of any European grain, but longer and larger; and I have been assured by very many credible persons, who, out of curiosity, had divers ways prepared it, that it far exceeds our best oatmeal. This is not sown and cultivated by the Indians, but grows spontaneously in marshy places, in and by the sides of rivers, like reeds or rushes. The Indians, when it is ripe, take handfuls, shake them into their canoes; what escapes them falling into the water, without any further trouble produces the next year's crop." Hearne saw it as far north as Churchill river, near the 60th degree of north latitude. Ellis, in his account of a voyage to discover a north west passage, mentions, that there are great quantities of wild rice by the sides of the lakes and rivers which run into Hudson's Bay, between the 50th and 55th degrees of north latitude. On the 21st September, Pike stopped at a Sioux village, between Pepin and the falls of St. Anthony, and in about 44 degrees 50 minutes north latitude, and found it elevated, all the Indians having gone out to gather fowl; and he says, that the Indian traders chiefly depend for their support upon wild oats, of which they purchase great quantities from the savages; and that an establishment on Red Cedar Lake, near the Mississippi in the 47th degree of latitude, they gave one dollar and fifty cents a bushel for it. The Menomoni, a nation of Indians inhabiting on the northwest of Lake Michigan, are called by the French, Fols Avoins, from this plant, which grows in great plenty among them. Henry, in his Travels in Canada and the Indian Territories, bought wild rice at Lake Saguan in great abundance; he says it grows in shoal water, and the Indians gather it by shaking the ears into canoes. Hennepin says, that among the fols avoins it appears above the water in June, and is gathered in September, and that it produces more meal than European oats. Mackenzie asserts, that the Indians, on Lake Sagenuja, depend principally for food upon fish, and wild rice which grows spontaneously in these parts; that there is abundance of it on the banks of a small river which runs into the Lake of the Woods, about the latitude of 49 degrees; that from Lake Superior to Lake Winnipeg, in latitude 50 degrees 37 minutes, "are vast quantities of rice, which the natives collect in August for their winter stores. To the north of 50 degrees, it is hardly known, or at least does not come to maturity;" that the country between Lake Superior and the Mississippi was formerly very populous, and produced wild rice in great plenty.—Mackenzie's Voyages, Preface.

Carver, in his travels through North America, states, that the fox river is rendered remarkable by the abundance of wild rice that grows on its shores, and that this grain, which grows in the greatest plenty throughout the interior parts of North America, is the most valuable of all the spontaneous productions of that country. Exclusive of its utility, as a supply of food for those of the human species who inhabit this part of the continent, and obtained without any other trouble than that of gathering it in, the sweetness and nutritious quality of it attract an infinite number of wild fowls of every kind, which flock from distant climes to enjoy this rare repast, and by it become inexpressibly fat and delicious. In future periods it will be of great service to the infant colonies, as it will afford them a present support, until, in the course of cultivation, other supplies may be produced; whereas, in those realms which are not furnished with this bounteous gift of nature, even if the climate is temperate and the soil good, the

"To Mr. Custrien science is indebted for the discovery of a famous plant, viz. *cyrtopodium bulbosum*, which was at first seen by Rudbeck in 1685, but had never been found since by any botanist; not even by the great Linnæus, who passed this way in July, and consequently a month after it had been in flower. This plant skulks among the underwoods and first which surround the church of Kemi. It modestly eludes the prying eyes of the passenger, and loves the temperate enjoyment of the sun's rays, which

first settlers are often exposed to great hardships from the want of an immediate resource for necessary food. This useful grain grows in the water, where it is about two feet deep; and where it finds a rich muddy soil. The stalks of it, and the branches or ears, that bear the seed, resemble oats, both in the appearance and manner of growing.—The stalks are full of joints, and rise more than eight feet above the water. The natives gather the grain in the following manner: nearly about the time that it begins to turn from its milky state, and to ripen, they run their canoes into the midst of it, and tying branches of it together just below the ears, with bark, leave it in this situation three or four weeks longer, until it is perfectly ripe. About the latter end of September they return to the river, when each family having its separate allotment, and being able to distinguish their own property by the manner of fastening the sheaves, gather in the portion that belongs to them. This they do by placing their canoes close to the branches of rice in such position as to receive the grain when it falls, and then beat it out with pieces of wood formed for that purpose. Having done this they dry it with smoke, and afterwards tread, or rub off the outside husk; when it is fit for use they put it into the skins of fawns, or young buffaloes, taken off nearly whole for this purpose, and sewed into a sort of sack, wherein they preserve it till the return of their harvest. It has been the subject of much speculation, why this spontaneous grain is not found in any other regions of America, or in those countries situated in the same parallels of latitude, where the waters are as apparently adapted for its growth, as in the climate I treat of. As for instance, none of the countries that lie to the south and east of the Great Lakes, even from the provinces north of the Carolinas, to the extremities of Labrador, produce any of this grain. It is true, I found great quantities of it in the watered lands near Detroit, between Lake Huron and Lake Erie, but, on inquiry, I learned that it never arrived nearer to maturity than just to blossom, after which it appeared blighted and died away. This convinces me, that the north west wind, as I have before hinted, is much more powerful in these than in the interior parts, and that it is more inimical to the fruits of the earth, after it has passed over the lakes and become united with the wind which joins it from the frozen regions of the north, than it is further to the westward."

The reasons assigned by Carver, why this grain is not seen in a state of maturity, to the east nor to the south of the Great Lakes, are unsatisfactory. The northwest winds are mitigated in passing over those immense bodies of water, nor is his assertion warranted by the fact. This rice certainly flourishes to the south of the lakes, and we have the authority of Kalm to support us in stating that it grows to the east. The only difficulty exists as to the degree of latitude by which its growth is bounded: and it is believed, that Mackenzie limits its northern extension too much. Kalm says that on the 16th July he saw it growing on the western side of Lake Champlain, near Crown Point, in this state, and in the 44th degree of north latitude; and again he mentions that the *zizania aquatica*, or folle avoine, grows plentifully in the rivulet, or brook, which flows somewhat below Prairie de la Magdalene, a small village on the eastern side of the river St. Lawrence, about 8 miles from Montreal: and that its seed are gathered in October, and taste almost as well as rice.—Dr. Williams says, that it is a native of Vermont. A considerable difficulty exists with respect to the botanical arrangement and denomination of

can only reach it by insinuating themselves between the branches of the bushes that overshadow it.—Dr. Smith, president of the Linnæan Society, has given us a coloured figure of it extremely accurate and lively, which the reader may see and admire in his collection of rare plants. This is one of the rarest as well as most beautiful productions of the north, it is indigenous in the parish of Kemi. Hitherto it has been discovered no where else except, as I have been informed, in North America."*

this plant. Linnæus, and after him Kalm, calls it *zizania aquatica*. M. Desfontaines, in his Tableau de L'Ecole de Botanique du Museum D'Histoire Naturelle, thus mentions it, quoting Linnæus for his authority, *zizania aquatica* grows in the northern parts of America, is an annual plant, and is alimentary. Michaux, in his Flora Boreali Americana, makes three species.

1. Milacea, } growing in the watery parts of North America.

2. Clavulosa.

3. Fluitans—at Lake Champlain.

Of the second he says, this is the *zizania* of Gronovius, which Linnæus has improperly arranged with the *Sloanea*.

Personn, in his Synopsis Plantarum, designates, besides those enumerated by Michaux.

Aquatica, } varieties the first growing in Jamaica

Palustris, } under water, and the latter in the waters of North America.

And *Terrestris*—on dry land.

Muhlenberg, in his Catalogue of the native and naturalized Plants of North America, enumerates four species of *zizania* or American rice.

1. Miliacea—millet.

2. Clavulosa—an annual plant, vulgarly called wild-rice, or oats, grows in Pennsylvania, flowers in September.

3. Palustris—marsh; risave—Canada.

4. Fluitans—floating.

Dr. Barton considers the *zizania clavulosa* of Michaux, as the *zizania aquatica* of Linnæus, and says that it grows and ripens its seed as far north in America, as the latitude of 50 degrees; and that the *zizania milacea* of Michaux, is a very distinct species, and that both of the species are eaten by the Indians of the countries adjacent to the lakes. Amidst such a number of clashing authorities, it would not become me to offer an opinion. It is possible, however, that the *zizania* of Lake Champlain, is only a variety of the folle avoine; and it is probably, a distinct species from the *zizania* of Pennsylvania. Providence appears to have intended this northern rice as a substitute for the rice of southern climates. Its produce is abundant; its alimentary qualities are undoubted; and the time, may arrive, when the *zizania aquatica* of the north shall, under the hand of cultivation, attain to as high perfection, and contribute as much to the subsistence of the human race, as the *oryza sativa* of the south.

In strictness there are but two species of wheat; with beards, and without beards. Winter, summer gray, duckhill, gray polard or fuller wheat, cone wheat, polonian wheat, Siberian spring wheat, Switzerland spring wheat, Egyptian beard wheat, murwaury wheat, brought from Barbary, German spelter, Zealand wheat, and froment tremaise, so called because it is only three months in the earth, all varieties of one or the other of these species, have been in a great or less degree cultivated in England, and each has some peculiar recommendation. I have seen lands in this state which have produced 50 bushels an acre of this most excellent of the cerealia.

In the Transactions of the Linnæan Society, it is stated, that the blight of wheat, (*uredo, frumenti*), in the west of England, which was attributed to an insect, was owing to a fungus which had been long sown in the stem of the wheat. Sir Joseph Banks, in an excellent essay on the blight in corn, annexed

* Acerbi's Travels through Sweden, &c. vol. I. p. 340.

Adequate and satisfactory notices of our husbandry would occupy too much time. Our attention ought to be drawn to supplies of the best and most powerful manures. As gypsum has no influence in the atmosphere of the sea, it is a great desideratum to find a substitute equally efficient for the Atlantic parts of the state. Fish, peat, sea-weed, street dirt, calcined pyrites, lime ashes, and marl, have been all recommended; and some of them have been tried with great success. The dyking of salt meadows and marshes, and thereby creating excellent land for tillage and grass, and the irrigation of lands, would be very advantageous; and they have not been practised with us except in a few solitary cases. Several plans for a rotation of crops have been proposed.

to Curtis' Practical Observations on the British Grasses, has embraced the same opinion and says, that the blight is occasioned by the growth of a minute parasitic fungus, or mushroom, on the leaves, stems, and glumes of the living plant; and he further states, that it has long been admitted by farmers, though scarcely credited by botanists, that wheat in the neighbourhood of a barberry bush, seldom escapes the blight; that the village of Rollesby, in Norfolk, where barberries abound, and wheat seldom succeeds, is called by the opprobrious appellation of mildew Rollesby: that some observing men have, of late, attributed this very perplexing effect to the farina of the flowers of the barberry, which is in truth, yellow, and resembles in some degree, the appearance of the rust, of what is presumed to be the blight in its early state, and that it is notorious to all botanical observers that the leaves of the barberry are very subject to the attack of a yellow parasitic fungus, larger but otherwise much resembling the rust in corn. In opposition to the idea, that it is improbable that these fungi are the same, it is remarked that the misletoe, the best known parasitic plant, delights most to grow on the apple and hawthorn, in England, but that it flourishes occasionally on trees widely differing in their nature from both of these, and in the middle states of America it is most frequently found on the *nyssa sylvatica*, or sour gum, but to the southward upon oaks.

An insect called the tipula tritici, or wheat insect, has destroyed, in some places in England, about one twentieth part of the produce. An insect, called the ichneumon tipulæ, deposits its egg in the larva, or caterpillar, of the wheat fly, and this destroys it. Dr. Darwin gravely proposes, in his Phytologia, to counteract the pernicious effects of insects which produce blight, by propagating the larva of the aphidivorous fly. It is not yet settled whether the hessian fly is of foreign or domestic origin; although a species of tipula, yet it is not the one just mentioned, as I am informed. The farmers on Long Island complain of the septennial ravages of an insect which destroys their barley, and which they denominate the army worm from its numbers.

Dr. Barton has very justly remarked, that it is an object of the first importance to investigate the natural history of those insects; which are peculiarly injurious to us in any way, and that unfortunately our country, as much perhaps as any on this globe, abounds with such insects.

Dr. Smith, the celebrated president of the Linnean Society, observes, that botany necessarily leads to the study of insects; for it is impossible to investigate plants, in their native situations, without having our attention perpetually awakened by the infinite variety of those active little beings, employed in a thousand different ways, in supplying themselves with food and lodging, in repulsing the attacks of their enemies, or in exercising a more than Asiatic despotism over myriads below them; and he exultingly exclaims, that in England, no branch of natural history, after botany, has, for some years, had more attention paid to it than entomology: while with us, to adopt the language of Dr. Barton, "notwithstanding the importance of the science of entomology, the history of our insects has hitherto excited but little attention.

but have not been attended to in a manner due to their importance. The failure of wood not only requires some beneficial system for replenishing our forests, but for accommodating the farmer with substantial fences: hedges of whitethorn or hawthorn may answer a valuable purpose; and it is believed that there are three species with us; two native and one imported from Great Britain. Of all the culmiferous plants, wheat contains the heaviest grain, and it is certainly the most important of the cerealia; it is our great staple commodity; and the utmost care ought to be taken in perfecting and protecting it against the injuries which it receives from various sources. The selection of the best kind for seed is a great object, there being several species; red, white, yellow, bald, bearded, summer and winter. It is obnoxious to injury from cockle, drips, sorrel, commixture of rye, smut, the weevil, the hessian fly, blast, and mildew. The cause of mildew is unknown; the blast some times arises from the effluvia of barberry bushes, but generally from the rapid growth of the grain in June. The origin of the hessian fly, and the best remedy against its depredations, are subjects about which there is a contrariety of opinion. (c) Particular attention ought also to be devoted to the selection of

(c) Mr. Green, in his discourse on the botany of the U. States, pronounces, that the fiorin grass is a native of this country; that it has been discovered in Sussex county, New Jersey, on the margin of the Genessee river, and on an island below the city of Albany. Whether this be the same as the fiorin grass of Europe is still a question *subjuncta*. In 1749 Kalm visited the island below Albany, and in his journal he has mentioned several of its vegetable productions; the *agrostis stolonifera*, if growing there at that time, escaped his penetrating eye, but, whether indigenous or not, we know that it has been imported and successfully cultivated; that its alimentary qualities, and its crops, are great beyond example, and that it flourishes in defiance of soil, drought, and climate.

I do not know that saintfoin, or sainfoin, (*hedysarum onobrychis* which signifies wholesome hay, has succeeded as well in this country as in France, from whence it is derived. The milk of cows fed on it is nearly double, and makes most excellent cream and butter. It fattens sheep better than any other food, and horses require no oats, although hard worked, when they are fed with it. Its increase of produce exceeds that of common grass land about thirty times, and it will last from ten to fifteen years. It yields an aftermow, or second crop. Curtis, in his Practical Observations on British Grasses, speaks slightly of the *festuca ovina*, and says that it appears to him applicable only to the purpose of making a fine leaved grass plot, that shall require little or no mowing. On the other hand, Withering in his botanical arrangement of all the vegetables naturally growing in Great Britain, intimates that the superiority of the Spanish and English wool is owing to the abundance of this grass in the hilly pastures where the sheep are kept.

Curtis has enumerated twenty-five genera, and one hundred and twenty-three species of grasses growing in Great Britain, and has judiciously, remarked, that to constitute the herbage of a good meadow there must be a combination of produce, batableness, and early growth. *Notable* is altogether an agricultural or provincial term, and he uses it to express cattle's thriving on the food they eat.

The best grasses of Europe have been neglected, and our indigenous ones have been, in a great measure, overlooked by us. Let our scientific men, our practical men, turn their attention to this and other important branches of husbandry, as yet scarcely noticed, and affording inexhaustible topics for investigation, and let them be encouraged by their labours by the observation of Bacon, that Virgil got as much glory of eloquence, wit, and learning, in the expressing of the observations of husbandry, as of the heroic acts of *Aeneas*."

the best grasses. Lucern, saintfoin, esparcet, and pimpernel, foreign and perennial grasses, have been mentioned as highly useful. Red clover and timothy are also exotics; but white clover is a native plant, and invariably follows cultivation. The *avena alata*, or tall meadow oats, was imported some years ago into Pennsylvania, by Dr. Muhlenburg; and is recommended as the best grass for green fodder and hay. The *festuca ovina*, or sheep's fescue, is preferred in Sweden to all others for sheep. Gmelin says, that the Tartars fix their tents during the summer in those places where there is the greatest plenty of this grass, and that the sepulchral monuments of the ancient Tartars are mostly found where it abounds; which shows that it has been long valued by them. Stillingfleet says, that it is found in abundance in many parts of England and Wales. In the *Hortus Elginensis*, published by a distinguished botanist,* it is mentioned as being in that establishment; and as a hardy perennial plant: it is a vernal grass, and not a native of this country: I have mentioned it thus particularly because it is so important a nutriment to sheep, of which it is believed we have nearly two millions in this state.—Wonderful qualities are ascribed to the Guinea grass in Jamaica, and the fiorin† is highly commended as surpassing all the grasses in its nutritious powers. In selecting the best foreign grasses for cultivation, we ought not to be unmindful of those which nature has provided us at home. In the western parts of this state there are several native grasses deserving of attention. One kind, called the winter grass, resists the effects of frost; and when the snow leaves the ground in the spring, furnishes nourishing pasture. Another species is stated to resist a dry season, and to be in full verdure when all other plants are perishing with drought. A perennial plant, called the wild pea, is said to be superior to clover as fodder; to which it is not only preferred as nourishment, but it has this advantage, that the stock is not so brittle, nor are the leaves so apt to pulverise. There is a highly aromatic plant, collected by the Indians in small quantities, called the Seneca grass.‡ (d) When on this subject it is proper to state, that there are certain plants which are pernicious to some kinds of cattle and not to others; for instance, the meadow-sweet§ wastes away the cow but is beneficial to the goat: the long-leaved water hemlock will destroy a cow, whereas the goat browses on it greedily; monk's hood kills the goat, but will not hurt a horse; the

(d) This grass produces a fine perfume, and has the same effect on tobacco as the vanilla bean. It delights in a rich soil, and may be easily cultivated. It is greatly superior, in its odoriferous qualities, to the *anthoxanthum odoratum*, or sweet scented vernal grass the only one of that kind which grows in England. Cattle are very fond of it, and it must produce the most delicious milk, butter, and butcher's meat. There is, however, great danger of its total extirpation, as it is very scarce. Indeed, the same danger is to be apprehended, and the same fatality has, no doubt, occurred in other instances. Hudson, on the 6th of September, sent a boat to sound the Kills between Bergen and Staten Island, and his men on their return reported, that the "lands were as pleasant with grass and flowers, and goodly trees, as ever they had seen, and very sweet smells came from them." This is not now the case.—The grazing of cattle, the rooting of swine, the plough, and other implements of agriculture, have entirely destroyed a great number of the annual grasses and plants which formerly flourished in this country. Several persons told Kalm, so far back as 1748, that the loss of many odoriferous plants, with which the woods were filled, at the arrival of the Europeans, but which the cattle have now extirpated, might be looked upon as a cause of the greater progress of the fever; for that the great number of those strong plants occasioned a pleasant scent to rise in

* Dr. Hosack.

† *Holcus Fragrans*.

‡ *Agrostis Stolonifera*.

§ *Spiza Ulmaria*.

andromeda, or dwarf laurel, is very fatal to sheep, and so is the *kalmia latifolia* which is devoured with avidity by deer.

Greater attention ought to be paid to the cultivation of our fruit; and to the destruction of those noxious insects and worms which have, within a few years, injured it beyond measure. Our soil and climate are admirably adapted to some of the most delicious fruits. The Spitzenberg apple is said to have been discovered accidentally in the vicinity of Albany; and it is only rivalled by the Newtown pippin, whose excellence is also, probably, of local origin and which reminds us of the *malum aureum* of the ancients. We

the woods every morning and evening. The vegetable kingdom in our western country is uncommonly rich, and luxuriantly abundant, because cultivation has been but partially extended to it. Hogs have produced great destruction among all tuberoses and bulbous plants. Even the laurel tree of Carolina has become almost extinct in many parts of the country, owing to the depredations of domesticated animals.

Although some plants, like some animals, are no longer seen in our country, yet the field of botanical investigation is immeasurable and boundless. Our country embraces every variety of soil and climate, mountains, rivers, lakes, and salt waters, and is the favourite depository of the vegetable riches of the earth. In the United States we are yet in the infancy of this science.

The first edition of Linnæus' *Species Plantarum* contains only 7,300 species. A curious amateur of botany took the pains to enumerate the plants described in Dr. Turton's translations of Gmelin's edition of the *Systema Naturæ*, and in a work of Willdenow, and found 2046 genera, and 19,803 species of plants, of which 688 genera have but one species; 263 but two; 174 but three; and 124 but four. And it is supposed that the whole number of described plants amounts to about 22,000.

Mr. Jacob Green has annexed in his well-written and interesting Address on the Botany of the United States, (delivered before the Society for the promotion of Useful Arts,) a catalogue of plants, indigenous to the state of New York. This list, which Mr. Green admits to be incomplete, contains about 403 genera, and 1,283 species.

The catalogue of the hitherto known native and naturalized plants of North America, made by that indefatigable and learned botanist Dr. Muhlenberg, contains but 863 genera, and not 2800 species. It is not unreasonable to estimate the whole number of plants in the United States, and their territories, at 8,000 and as yet we have not described 3000. What an opening does this afford for the operation of scientific inquiry? No wonder that Linnæus was so anxious to visit this country. Catesby, in his *Hortus Europæ Americanus*, published in 1767, truly observes, that a small spot of land in America has, within less than half a century, furnished England with a greater variety of trees, than has been procured from all other parts of the world, for more than a thousand years past.

From information which has recently reached me, I am persuaded, that our Dutch ancestors paid more attention to the improvement and natural history of the country, than has been generally imagined. We are, as yet, greatly in the dark with respect to events and observations during their occupancy of New Netherland, as they termed their country; but the means of information are amply within our reach. De Laert wrote a book respecting it, wherein he gives a very particular account of the Indians; and Megapolensis, an eminent Dutch minister, who formerly lived in this city, also published a work on this country, when a Dutch province; and I have now before me a manuscript translation made by the Rev. Dr. Basset, of Dr. Vander Donk's History of New Netherland, published in 1655. It is very interesting, and it is to be hoped, that that worthy gentleman will meet with sufficient encouragement to publish it, and also correct translation of De Laert's

work, also, to be particularly attentive to the introduction and naturalization of the best foreign fruits; and the importance of this will be duly appreciated when we consider the origin of those which are now most esteemed. The cherry and filbert are from Pontus; the apricot from Epire; the peach from Persia; the citron from Media; the pomegranate from Carthage; the quince from Cathonea; the plum from Damascus; the best pears from Alexandria; and the olive and fig from Greece.—*Discourse before the Lit. and Phil. Society of N. York.*

and Megapolensis, for which no man in this country is better qualified. Vander Donk states, that a certain surgeon, a resident of New Netherland, had formed an extensive botanical garden, in which he planted many medical roots which he cultivated from the woods adjacent to his abode; but by the removal of that worthy gentleman from the country, his humane and patriotic exertions were lost to the world. This, I undertake to say, was the first botanical garden established in this part of America. It appears, also, from this work, that most of the medicinal and other herbs, with which the country abounds were known to our Dutch forefathers; that they took uncommon pains to introduce the best cereal gramina, legumens, and excellent vegetables and fruit of various kinds, and have even cultivated canary seeds; that they introduced the white and red, the cornelian and stock roses, wall flowers, tulips, imperial flowers, the white lily, and the lily of the valley, ladies' rose, violet and gold flower, and that the country abounded with flowers peculiar to it, of the most beautiful kind, to which the European was an entire stranger, viz: the sunflower, the red and yellow lily, the morning glory, the white, yellow and red marygold, a species of wild eglantine, the different kinds of the bell flower, and many others.

Our Dutch ancestors also turned their attention to improving the dyes of the country; great hopes were entertained from the wild indigo; and they not only supposed that the common indigo might be raised to great advantage, but they actually tried the experiment. Seed was imported from Holland. The first attempt failed, owing, as it was supposed, to an extraordinary drought which prevented the plant from coming to maturity; but another experiment completely succeeded; the seed was sown near New Amsterdam, (New York) and a great crop was obtained, specimens were sent to the mother country, where good judges pronounced it of a superior quality. But what is still more extraordinary is, that there is reason to believe that it was contemplated to introduce the famous orchilla weed. When the Spaniards discovered the Canary Islands, they sought for it as eagerly as they did for gold; it was probable, that it was made use of to produce the gertulian purple of the ancients; and they also had in their view other vegetable dyes which we cannot now accurately designate. "The *crap plant*," says Vander Donk, "for dying red is not cultivated in New Netherland, but it is not to be questioned, that if it were tried it would yield well."

I must repeat my wish, that this curious work may soon see the light. It appears from it, that the country was so remarkably healthy at that time, that it was a strange thing to hear of a person being sick; that the east wind did not extend far west; and that the climate was as mild at that period as it is now.

From the Practical American Gardener.

[Published by Fielding Lucas, jun.]

For the Month of July.

Clean and prepare all vacant ground, where the crops have come to maturity and have been taken off, that it may be in order to receive fresh seeds, and plants such as may be made use of in autumn and winter.

Peas.

The early crop of hotspur peas, will in this month be ripening for seed; and as it is not so necessary in the middle states, to change all kinds of seeds, every year, as in most parts of Europe; this valuable article may be planted in the same ground, for several successive years, and the seed materially improved, so as to produce double the quantity by attending to the following directions.

None, from the rows of peas which are intended for seed, on any occasion, ought to be gathered, until they are fit for seed, then go over the rows, select all the pods, which appear to have five peas and upwards in them, shell them out carefully, and afterwards, with a coarse riddle, which will just admit the smaller peas through, separate the small ones from the rest (the small ones to go into the general mass) the best to be reserved for your own sowing. The second year you may reject all pods which have not six, and upwards in them, handpick, and shell them in like manner, and so continue the third and fourth years, when the peas will have attained their full maturity, and some of the pods will have ten and eleven fine large peas in them, and if the same care is observed ever after, they will not degenerate, but will continue to produce as before mentioned, without being so subject to the blight.

The small dwarf pea may be treated in the same manner, with an equally good effect, but as the seed is small, of course a riddle suited to their size must be used.—The other sorts might probably answer as well, if managed in the same manner; but these have not been proved.

Potatoes.

Early this month, if not done in the last, a fall crop of potatoes, may be planted in the middle states. The ground may be furrowed out, pretty deep, let the furrows be three feet apart, and a good coat of rotten manure, spread in them, about three inches thick; place cuttings of the potatoes, having two or three eyes in each, about ten or twelve inches apart, in the rows, and cover them with about six inches of earth. A few days before they shoot up through the ground, harrow them over, with the back of the harrow, which will considerably check the growth of the weeds, and after they appear above ground, a small harrow may be run over the ground, between the rows, which may be expeditiously done; after which the hoe and plough must be used to destroy weeds.

The potatoes planted early in the spring, will now be fit for use.

Cauliflowers.

The late sown cauliflowers, intended for winter use, may now be planted out.

In planting this crop, take every opportunity of showery or moist weather, plant them at the distance of two and a half feet each way; let them be immediately watered, and afterwards frequently, until they have taken root.

Cabbage seed.

Sow some of the early York Battersea and sugar-loaf cabbage, for a supply of young greens during the autumn. They are by some called coleworts, and have superseded the true coleworts, which were formerly propagated, for boiling as greens.

Some Savoy seed may also be sown at this time, for a late winter crop.

Coleworts.

Those who wish to have the true coleworts, may sow them early in this month, to be planted out in the beginning of next month, for winter greens, but the early York, &c. cabbages are preferable, to be used instead of these.

Planting Cabbages, Savoys, Borecole, &c.

Plant out your late crops of cabbages, savoys, borecole, broccoli, turnip cabbage, Brussel's sprouts, Jerusalem kale, and all others of this species, in moist or cloudy weather; let them be planted, as formerly directed, and immediately watered, which must be frequently repeated, until they have taken root and begin to grow. Lay a fresh cabbage leaf over each plant, for a few days, which will protect them from the sun.—Some seed of the green curled borecole may be sown for a late crop.

Small Sallading.

Continue to sow small sallading, every eight or ten days; shade them with mats from the mid-day sun, and water them frequently.

Lettuce.

Thin and transplant the lettuces sown last month, water them immediately and repeat it when required.

Sow more lettuce seed, the beginning, middle, and particularly the latter end of the month, for a regular succession. The white Silesia, brown Dutch, India, grand Admiral, and Saxony cabbage lettuce; are all good kinds.

Carrots.

Towards the end of this month sow some early horn carrot seed, in drills, to raise young roots for autumn and winter. When the plants are up, an inch or two, thin them to five or six inches.

Celery.

Plant out into trenches a full crop of celery, for autumn and winter; let this be performed as directed in June. The red stalked celery, branches very white, and is generally preferred to any other.

Earth up the early crops of celery, which have been planted out in trenches, first pulverizing the earth, and then laying it neatly to both sides, preserving the tops and hearts of the plants free; repeat this earthing, every eight or ten days, or oftener, until the plants are of proper size for use.

Sow more seed in the first week of the month, for a late crop.

Turnips.

Between the twentieth of this month, and the middle of August, a principle crop of turnips, may be sown for autumn and winter use; but the earlier, in that period of time, they are sown, the larger size will the roots attain to.

Transplanting and sowing Endive.

Plant out a sufficient quantity of the best and most flourishing endive. It requires a good, strong, moist ground, well dunged. Put in the plants a foot asunder every way, water them immediately, and repeat it every evening till the plants have taken root.

Sow green Endive, also white, and Batavia, twice this month. They should be sown in ground well prepared, and sown thin. Water them, frequently in dry weather, both before and after the plants appear.

Spinach.

In the last week of this month, sow a crop of the round seeded spinach for autumn use.

Radishes.

Radishes, of every kind, may be sown in the last week of this month; but particularly, the white and black Spanish, or winter radish, of which a full crop ought to be sown for autumn and winter.

Sow, likewise, some of the short top salmon and purple, also the turnip rooted radishes. Let all these seeds be now sown on moist grounds.

Artichokes.

In order to have artichokes in perfection, in the first week of this month, all the small heads, which are produced from the sides of the stems, must now be cut off to allow the main head to attain its full size; these small heads may now be dressed for the table.

The maturity of a full grown artichoke, is apparent by the opening of the scales; and it should always be cut off before the flower appears in the centre.

As soon as the heads are all taken from any stem, it should be immediately cut down close to the ground.

Cardoons.

Plant cardoons in the first week of this month, if not done in the last month, as has been directed. Earth up in dry weather, those planted at that time; tie the leaves previous to the earthing of them with a hay-band, which will preserve the plants; the earth to be raised up half their height.

Melons, Cucumbers, Squashes, Pumpkins and Gourds.

The crops of these should now be kept very clean and free from weeds, the space between the hills must be carefully hoed, without injuring the vines.

Melons and Mangoes.

The first week in this month, sow the seeds of the long smooth melon, for mangoes (in the middle states) as has been directed.

Cucumbers for Pickling.

From the first to the tenth of the month, sow a general crop of cucumbers for pickling, treat them as directed, in May and June. The green cluster cucumber is the greatest bearer.

Some of the early frame, or short prickly kinds, may be sown in the middle of the month, for a late crop.

Kidney Beans.

Kidney beans of the dwarf kinds may be planted, in the beginning, middle, and latter end of this month. It will be best to water the drills before planting, and if they have been steeped in pond water, for five or six hours, before planted, they will shoot the sooner.

Egg-Plant, Red Peppers, and Tomatoes.

In the first week of this month, if not done before, plant out these, as directed last month. Give them shade and water until they have fully taken the ground.

Leeks.

You may still continue to plant Leeks, as before directed.

Garlick, Shallots, and Rocambole.

When the leaves of these plants wither, pull up the roots, and dry them in the shade for a week or ten days.

Onions.

Pull onions when the leaves wither, do this in dry weather, and leave to each onion, about four inches of stalk. Spread them on dry ground for ten or fifteen days turning them every other day. Then clean them from the earth, and spread them on a dry room floor, leave the windows open in dry weather, three or four weeks, after that keep out the air, and turn the onions occasionally, picking out such as may be injured.

Collect Seeds.

Collect all kinds of seeds, as they come to full maturity, cutting off or pulling up the stems, with the seed thereon, as they ripen, and spread them in an airy place, where they can receive no wet, in order that the seeds, may dry, and harden gradually: carefully turn them occasionally, and observe not to lay such a quantity together, as will cause them to ferment. When they are sufficiently dry, beat out and clean the seeds, and lay them by in boxes, or bags, labelling each kind.

Herbs.

Gather herbs for drying and distilling as they come into flower, and dry them in the shade. Gather Camomile, marygold, and such other flowers as may be wanted, which may now be in bloom. Spread the flowers in the shade till sufficiently dry, and then put them in paper bags, &c.

Sage, hyssop, thyme, lavender, winter savory, and many other kinds, may still be propagated, by slips of the present year's growth, giving them shade and occasional watering's till rooted. Plant them about three inches in the ground.

Sowing Peas.

In the last week of the month, sow a crop of the golden hotspur peas. Water the drills, and let the peas be soaked in pond or soft water, five or six hours, before sowing—should the season prove moist, they will produce early in September.

General Remarks.

Earth up your cabbages, okras, peas, kidney beans, &c.; this will greatly refresh them, and protect their roots and fibres from the intense heat of the sun.

Diligently destroy weeds, before they seed, and immediately carry them out of the garden. Give water, whenever it appears necessary, and let this be always done of an evening, that it may have time to settle down to the roots, before the morning sun exhales it.

Pull up the stalks of beans, cauliflowers, cabbages, and the haulm of peas, and other plants which have done bearing, and clear the ground; for if these are suffered to remain, they may harbour vermin to the injury of the adjoining crop.

THE FARMER.

BALTIMORE, FRIDAY, JULY 2, 1819.

We ought to apologise to our patrons, for the want of *variety* in this number: it was occasioned by the desire to dispose of two long articles, which, however interesting, and they are highly so, are, on account of their length, not so well suited to a weekly paper.

We have on file, original communications of the most valuable character, from various quarters, which we are impatient to lay before our readers, having no doubt but they will be pleased, as we have been, at the manifestation of ardent and increasing zeal for agricultural improvement in Maryland. The example set by a few gentlemen, no less eminent for their industry than for their abilities, in writing on agriculture under their proper signatures, has had the best effect.

The proceedings of the Agricultural Society of Prince George's, have been politely communicated through their Secretary, by order of the Society, for insertion in the American Farmer. They claim an early insertion, both on account of their priority of date, to other communications received, and from the intrinsically able and interesting nature of their contents.

The address of Doct. Jos. E. Meuse, on *Entomology*, to the Agricultural Society of Maryland, at Annapolis, which they also did us the honour to request might have a place in this paper, was not received until the moment we are writing. It was published in the Maryland Gazette, on the 17th of June, but somehow slipped through our fingers. We have not even leisure now to read it, but we shall be egregiously deceived, if it be not every way worthy of the particular notice bestowed on it by the respectable society to which it was addressed. We hope to be able to give it a place in the Farmer after the next.

The Plough Boy.—Four numbers of a weekly paper, printed in Albany, under this title, have reached us. In size, plan and objects, the *Plough Boy* nearly resembles the American Farmer; but not being printed so close, does not, perhaps, contain so much. The deficiency in the quantity however, if any, is amply made up, in the superior quality of the matter. The price of the *Plough Boy* is but 3 dollars per annum; the value ten times that to those who will read—and to those who think that nothing is to be learned by reading, in relation to agriculture, it is useless to say any thing about it.

Subscriptions for the *Plough Boy* will be received at this office with much pleasure.

PRICES.

Very little change, if any, has taken place in the more bulky articles of country produce since our last. Tobacco remains as at that date—Corn has been a little depressed—say now, at 48 to 50 cents, per cargo—Red Wheat is a little improved, \$1 15 was asked for it yesterday, and we heard of none selling under that—No new Wheat yet in market.

From late London papers.

THE CIRCASSIAN FAIR.

This fair stranger was lately introduced by His Excellency the Persian Ambassador to upwards of twenty ladies of distinction. She was elegantly attired in the costume of her country;

her dress was a rich white satin fringed with gold, with a bandeau round her head, and wreaths of diamonds. She received her visitors with graceful affability, and they were highly pleased with her person and manners. She is not, as has been represented, short and slender, she is of the middle stature, of exquisite symmetry, rather *en bon point*; her complexion is of a brownish cast, her hair a jet black, with beautiful arch black eye-brows, handsome black penetrating eyes, her features regular, and strikingly handsome. The ladies were highly gratified, and passed great encomiums on the elegance of her person.

CURIOUS CIRCUMSTANCE.

There is now in the possession of Mr. Hayes, a butcher of Southampton, a pig, with a *wooden leg*, on the off side before, and it appears to walk with little lameness or inconvenience. This pig belonged to a disbanded soldier, who, having seen many operations performed on his heroic comrades, on the glorious field of Waterloo, remembered enough of surgery to enable him to practise amputation with success on the poor animal, when an accident left no alternative between the loss of a limb or a premature death.

IMPROVED HARROW.

From the Memoirs of the Virginia Agricultural Society.

TO DR. JOHN ADAMS.

Secretary of the Virginia Society for promoting Agriculture.

JUNE 6th, 1818.

Dear Sir—Permit me, through you, to present our Society with the enclosed drawing of a Double-Harrow, designed principally for the culture of Indian Corn. It is an implement which I can venture to recommend, having used it for two seasons, I think, with great advantage. It requires two horses or mules to pull it, and will execute as much work at one stroke, as a single-horse plough will at six or eight. The teeth, which are thirteen inches long, one inch square at the large end, and tapered to something less than three quarters, and cutting within five inches of each other, penetrate to the depth of about six inches; and pulverize the land thoroughly, (if not very stiff,) from one water furrow to another, where the beds are only five and a half feet wide. As the Harrow is intended to run on each side of the corn, you may make the teeth next the corn cut as near as you please by screwing up the coupling bolts which are long enough to admit also of a considerable extension; the drawing then as close as practicable, diminishes much the labour of the hand hoes, which alter these Harrows, have little else to do, than merely to weed the narrow space left between the teeth running next the corn. I have used them both before planting, and immediately previous to nursing. Their superiority to any stiff harrow that ever I have seen, consists, as the drawing will show, in the coupling bolts, allowing all the teeth, ten in number, to act at the same time, however irregular the surface may be over which they move.

The scale of the drawing is one inch to the foot, the size of the timbers four and a half by three and a half inches.

I remain, Dear Sir,

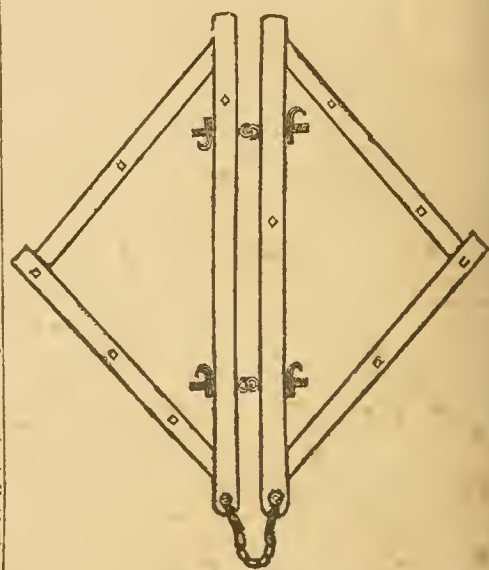
Your obedient servant,

JAMES M. GARNETT.

P. S. Although the following directions, in regard to the harrow-handles, may not generally be thought necessary, yet as some may think they ought to be given, I will add them. The proper place to insert the handles is about one foot from the hinder end of the pieces through which the coupling bolts pass. These handles should slope a little backwards, and having no connexion, as in a plough, should diverge from each other at the top, in such a way as to keep the handles at a convenient distance apart.

J. M. G.

In the following engraved sketch, the scale is *half* an inch to the foot.



ANOTHER TRAVELLING MACHINE.

Mr. Birch, the coachmaker, has presented the Duke and Duchess of Kent, with a vehicle, called the *Velocimanipede*, calculated to carry three persons, without a horse, and weighs only 100 pounds weight. The centre, or body of the carriage, is supposed to be for a female; the front is for a gentleman to sit on a narrow saddle to guide it. At the back is a small dickey to work the hind wheels by machinery. It went over a distance of ground of one mile in three minutes, and it could be kept up with ease at eight miles an hour. Their royal highnesses expressed their gratification at the ingenious contrivance of a vehicle to carry three persons without a horse, particularly at the simplicity of the construction, and the ease with which it is worked.

PRINTED EVERY FRIDAY

FOR

JOHN S. SKINNER,
BALTIMORE,

AT FOUR DOLLARS PER ANNUM,
PAYABLE IN ADVANCE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos numquam sua si bona norint
"Agricolae." Virg.

VOL. I.

BALTIMORE, FRIDAY, JULY 9, 1849.

NUM. 15.

INTERNAL IMPROVEMENT.

FOR THE AMERICAN FARMER

The Bactrian Camel.

As a beast of burthen for cultivators, and for transportation across the continent, to the Pacific Ocean.

By our arms, and our treaties with Great Britain, France, and Spain, the entire possession and the absolute independent dominion has been acknowledged to us, over that vast portion of our continent, between the twenty-eighth and forty-fifth degrees of north latitude on the Atlantic, and the forty-first and fiftieth degrees on the Pacific Ocean. On casting an eye over the map, this immense region appears to be hooped and banded together by the most extensive lakes or inland seas, and some of the noblest rivers on the globe. The spirit and ingenuity of our citizens have done much, more already, perhaps, than ever was done by any other civilized people, to improve the navigation of such great streams, and thus to give activity and additional force to the influence of those extended commercial highways, as bonds of union and harmony, and as channels of profit and prosperity.

The territory along the coast of the Pacific, within our dominion, and for a considerable distance inland, to the foot of the first range of mountains, is very fertile; it is well adapted to the production of the grains and fruits of the Atlantic portions of the union, and abounds with the greatest quantity of excellent timber, particularly ship spars, which surpass in lightness, elasticity, and strength those of the growth of any other part of the world. The fisheries of the Columbia River, and the neighbouring inlets of the coast, have been well ascertained to be more accessible, safer, and fully as productive, as the best situations off Newfoundland. That the climate is salubrious and healthy, is proven by the numerous, and robust population of Indians, that inhabit the country. Settlements, will no doubt very soon grow up, and spread along the shores of the Columbia River with astonishing rapidity, and the young athletic powers of our government will, ere long, launch into its waters a fleet to move along the coasts of the Pacific, and take under its protection the commerce, which the enterprise of our citizens will soon create and extend over those seas, to an incalculable amount. The passage from the Chesapeake, the centre of our Atlantic border, by sea, round Cape Horn, to Columbia River, and back, as proven by the numerous voyages of our North-West coast traders, cannot be accomplished in less than ten or eleven months. These two great maritime, and highly beneficial borders of the United States, are, thus, by the vast southern stretch of our continent, almost completely separated, the one from the other, and divided into distinct spheres of maritime commerce; which, how-

ever, the obvious interests of the union render indispensably necessary to connect by every possible and practicable means to the heart of the territory and population, by river, or by land transportation, or by both, and by the most rapid and certain communications. To enable the government to wield its potent energies with effect, and to give to the American people the means of exerting their enterprising commercial spirit, to the greatest advantage, and to enable them to make due profit from the great resources of their country, it has become necessary, that a short, direct, and certain means of communication should be established into every quarter, to the most remote point, and particularly over the continent, to the Pacific Ocean.

Steam boats have effected much; our improvements and facilities of intercourse, in that way, have justly attracted the admiration of the civilized world; but there are physical difficulties and obstacles which that masterly invention cannot surmount nor remove, with all its skill and power. The navigation into the interior along the Missouri, is very circuitous; it is short of the great object, that of reaching the Pacific, by many hundreds of miles; because from the falls, there is, thence, a distance of about eight hundred miles over to the Columbia River, no navigation practicable for vessels of any size; from the falls, downward, for a thousand or fifteen hundred miles, the navigation is entirely closed by ice during the winter season. Therefore, whatever advantages may be derived from steam-boat transportation of heavy articles, by the way of the Missouri, into the interior, it must certainly be abandoned as the mail route to the coast of the Pacific; and, also, I am inclined to believe, as the route for the transportation of any articles across the continent, farther than Yellow Stone River. Beyond that point, other modes of conveyance must be sought for and applied, and the only means, at present, in our power, and capable of being so supplied, are horses and oxen.

The oxen of the United States, are in many respects very serviceable animals; they are more patient of fatigue, bear worse treatment, may be sustained on coarser food; and in the draft, are not so apt to become restive as horses; but they are more unwieldy, awkward, and much slower in their pace than horses. The oxen of Spanish America, owing, perhaps, to a constitutional fierceness of temper, like the cattle of Spain, from whom they are descended, are remarkable for their superior size, agility, and quick step. They are commonly used for long journeys in caravans of heavy loaded carts; and are generally, able to travel, thirty or forty days together, with no other food than the grass which they are occasionally turned loose to gather by the way, at the rate of about thirty miles a day.—The oxen of South America, not only surpass ours in speed but they travel as fast again as our best

vagon horses. The west country wagons, traveling between Baltimore and Pittsburg, a distance of two hundred and forty miles, on an average require sixteen days to perform the journey; that is at the rate of about fifteen miles a day; and it is believed to be as fast as a loaded team is, in any country, allowed to travel, on a journey, each day.

Supposing then, the distance from St. Louis to the mouth of the Yellow Stone River to be twenty-five hundred miles; and allowing, that a steam boat will be able to ascend the river Missouri to the confluence of that stream, with as much ease as from New Orleans to St. Louis, it would be fifty days in reaching the Yellow Stone from St. Louis; and estimating the distance from the mouth of the Yellow Stone to that of the highest navigable part of the Multnomah, or the Columbia, to be one thousand miles, by a road equally practicable, with those from the Atlantic sea ports, to the western country, beyond the mountains, the land transportation from the navigable waters of the Atlantic to those of the Pacific ocean, will require a journey of sixty-seven days for loaded wagons drawn by horses; and supposing the mail to ascend the river Missouri, and to pass over by the same route, and allowing it to travel at the rate of one hundred miles a day, by land, it would be not less than one hundred days in reaching the Pacific from Washington, by way of St. Louis.

A communication from coast to coast, so circuitous and tardy, is obviously fraught with the most seriously evil consequences to the integrity and harmony of the union. It may be safer, and in general exposed to less risk, than that by the way of Cape Horn; but, in the winter season, of our hemisphere, it must be more interrupted and longer discontinued, than that by sea. It behoves us therefore, to turn our attention, in time, to some mode of procuring a more speedy and less broken intercourse with the opposite coast of our continent, before the settlements which must very soon take root and spread along it, shall have their interests developed in other directions, and be estranged from their natural and beneficial connexion with their kindred of the Atlantic mother country. This communication I believe to be perfectly within our power to effect, by means of the BACTRIAN CAMEL, whose constitution, seems to be in all respects, formed to endure hardships, to encounter the severities of our winters on the great plains of the interior, and the bleak sterility of the rocky mountains, no less than the sultry dry deserts traversed by the rivers Platte and Kauses of the Missouri territory.

In speaking of this valuable animal, it must be recollected, that it is not the Arabian species to which I allude, whose uses are exclusively confined to the roving inhabitants of that sultry region beyond which they never stray, and without the arid atmosphere of which, the quadruped

seldom flourishes, and never multiples; but, to the animal of the camel species, which traverses the vast plains of central Asia, from the Don to China; whose robust constitution and fleetness, has enabled the wandering Tartars to explore, to make incursions, or to take refuge on every border, and in every quarter of the prodigiously extended regions of Asia, and eastern Europe, from the Don to China; and from the upper waters of the Ganges to those of the Tobol and the Lena, and to spend the winter on the shores of the lake Baikal, in north latitude, fifty to fifty-five. The Arabian camel has been transported into Spain, and into some parts of Spanish America, within the tropics; but it did not succeed, owing to the occasional colds, and the winter of Spain and the excessive humidity of America.—Wet and mud occasions the legs of the Arabian camel to swell, brings on a paralysis of its limbs, causes it to fall down suddenly, and of which disease the animal seldom survives long. This was observed of the Arabian camels taken by BONAPARTE from Cairo into Syria, along the humid district of the coast.

“The *Bactrian Camel*, no less patient, durable, and long lived,* than that of Arabia, differs from it as materially in constitution, as in external form. This animal is distinguished from that of Arabia, in that it has two bunches, the body longer, the tail lower, and the hair mostly of a yellowish brown; instead of which the Arabian Camel or Dromedary, has only one bunch, and that very high, and which is generally covered with ash coloured hair. These animals are naturally tractable, and of great strength; for they can carry from fifteen hundred to two thousand pounds weight, and travel faster than the other camels, many leagues a day, without eating; and, also, like them, will continue without drinking for twelve days together. These animals often weigh three thousand pounds, and are from six to eight feet high. The form of their body is neither disproportionate nor ugly; the head and nostrils are oblong; and the lips and mouth like those of a goat: the ears are hairy, small, and something like those of a horse; the neck is thick and handsomely arched; it lies low in the back, and seems to be inserted between the fore legs; from the throat, as for the breast, it is adorned with beautiful hair, long and curled; the hair on the back is yellowish; towards the belly brown; and under quite dark: the belly is gray; under the breast a hard skin forms a kind of shield or defence, which comes down in a point towards the fore legs, so that, when he lies down, he rests himself entirely upon it: there is a thick protuberance growing round the thighs, crowned with a tuft of long black hair; the tail is short, adorned at the end with a tuft of hair; the skin is thick and hard; on this account some naturalists suppose all perspiration suppressed, and that this may be the reason why the animal drinks so seldom. The *Bactrian Camel* is extremely lardy, and in great use among the Tartars and Mongols, from the Caspian Sea to the empire of China. It bears even so severe a climate as that of Siberia, being found about the lake Baikal, where the Burats and Mongols

keep great numbers. Here they live during winter on willows, and other trees, and are by this diet reduced very lean. Attempts have been made to introduce this species into Jamaica, and the Barbadoes, but they did not succeed. In Tuscany, however, the grand Duke LEOPOLD, afterwards Emperor, introduced a few, which increased in a few years to two hundred; but so great a price was asked for them, that they have not been purchased into other parts of Europe, which is to be lamented, when it is considered, that they may be fed so very cheap, are twice as strong as a horse, and travel with a load twice as fast.”

“There are several rarities among these Camels. What are called the *Mahary*, and *Raguahl*, are very swift. The last, which has a delicate shape, and is much inferior in size, never carries burthens, but is used to ride on; it is trained for running matches; and in many places, for carrying couriers, who can go above one hundred miles a day, for nine or ten days together, over burning deserts, uninhabitable by any living creature. In western Tartary there is a white variety, very beautiful, and sacred to the idols and priests. The Chinese call them by the expressive name of *Fong Kyo Po*, or Camels with feet of the wind. This is very rare, being an exotic, and only kept by the great men. It is to this swift, and delicate variety, that the name of *Dromedary* ought, exclusively, to belong; as that word is derived from the Greek word which signifies *swift running*; whereas, in general the animal with one bunch is called *Dromedary*; that with two, *Camel*. This beautiful breed is found in the highest perfection in China, and western Tartary.”

Aided by the singular excellencies, powers, and fleetness of the *Bactrian Camel*, in selecting our course over the continent, from the city of Washington to the Pacific Ocean, we might proceed straight forward, by the most direct route, regardless of wildernesses or desert wastes, and of every thing, but the lofty precipitous walls of the Alleghany and the rocky mountains. We should shape our course on the back of such an animal, by the nearest and straightest way; and therefore, I will suppose the road to be traced out, solely with a view to such a means of conveyance. From the city of Washington, the present mail route may be pursued to St. Louis, a distance of nine hundred and eighty-three miles, as set down in the list of Post Offices. From St. Louis to Fort Clark, a few miles below the mouth of the Kansas River; thence passing the old Kansas villages on the Missouri, and ascending along the right bank of the great Memehaw River, in a north westerly direction, and crossing the Platte river to the Pownee Loup villages, in lat. 41, 10, long. 100, W; thence in a westerly direction towards the lake at the head of the Yellow Stone River in lat. 43, 10, long. 110, W; through what is called, the southern pass of the rocky mountains, to the left bank of a branch of the Columbia River, called the south fork of Lewis' River; thence descending into the great dry plain at the western foot of the mountain; thence, in a north west direction to the mouth of the Multomah River; thence to the settlement on the coast of the Pacific near the mouth of Columbia River.

From St. Louis to the big Horn River, near the eastern foot of the rocky mountains, the country according to every account, is one vast, uninterrupted, unbroken plain; consequently, the route need not deviate, either to the right, or to the left, from the direct course up to the entrance into the mountains in the direction towards the head of the Yellow Stone River, and may, therefore be safely set down at a distance of nine hundred and fifty miles; thence, over the western foot of the mountains, there is no estimating the distance with any very great degree of precision, but making a liberal allowance for necessary deviations, the route, over that great ridge, cannot exceed three hundred miles; thence to the sea coast, at the mouth of Columbia River, by the way of the confluence of the Multomah, cannot be more than six hundred and fifty miles, making in the whole, a distance, of little less than, twenty nine hundred miles from the city of Washington to the Pacific.

The fleet *Bactrian Camel*, well broke for riding, which can, singly, travel for many days together, at the rate of more than one hundred miles a day, might with reliefs, relays, and care, be made to transport the mail over the continent at the rate of two hundred miles a day, with great ease: which would carry it from the city of Washington to the mouth of Columbia River, by the direct route I have designated, by the way of St. Louis, and the head of the Yellow Stone River, in fifteen days, at least: and, in one month, an answer might be thus obtained to any communication from one coast to the other of our continent. This species of the Camel is as docile and tractable, for the draft, as the horse or the ox; and travelling so much faster, might, with great advantage, be applied to the draft of carriages for passengers, and the transportation of goods; and with tolerably improved roads, would accomplish the journey with relays, along the direct route I have pointed out, from the city of Washington to the Pacific in thirty day, with no distress, and little fatigue to the traveller.

This speedy and certain mode of transportation, across the continent, and in every direction into the interior, and to the north and south western frontiers of our union, would be attended with the greatest and most important commercial benefits as well as prodigious political advantages.

But, in addition to these more general considerations, the *Bactrian Camel* would be the most valuable acquisition, that our southern and western planters and farmers could possibly obtain. The Camel not only sustains itself on a less quantity of food, and that of the poorest and coarsest kind, such as would be rejected even by an Ass, but it will perform twice the labour of a Horse, either in harness or under the pack saddle. The Camel will browse on the boughs and rough shrubbery of our forests, or feed on straw sprinkled with a little brine in preference to the best hay. We know, that from James River to the Mississippi, along the sea board, where the planting system of husbandry prevails, and where the land holders are chiefly engaged in the cultivation of Corn, Tobacco, Indigo, and Cotton, there is a very scanty supply of rack food made, or laid up for the support of stock. We know too, that during the hot summer months, the labour of travelling over the burning, sandy roads of the

* The Camel, it is said, with ordinary care, lives, and is fit for service, upwards of forty years.

Carlinas, Georgia, Alabama, and Mississippi, is almost insupportable, and is exceedingly destructive to Horses. To all the south eastern portion of the union, therefore, the *Bactrian Camel* would be, by far, the most valuable labouring animal that could be introduced into it. And, since it has been found by actual experience, to increase, multiply, and flourish in Tuscany as well as in its native regions, there cannot, I should imagine, be a doubt in the mind of any one, that, all that portion of the United States, from the Potomac south and below the mountains, as well as the great plains, west of the Ohio River, and on the Missouri, would in a very high degree be suited to its constitution and habits.

I have heard of an idle project having been actually brought before the legislature of one of the states, and being very gravely discussed, for encouraging, by law, the importation of English *Pheasants* and *Rabbits*, and for the sowing of *scots broom*, and some of the barren tracts of the state as a cover for them, thereby to promote and increase the sports of the field, for the exercise and amusement of the *Gentlemen Citizens*. Why should not an effort be made to import so valuable an animal as the *Bactrian Camel*? Would not the subject be well worthy of the combined efforts of a voluntary association of planters, and public spirited citizens to make up a fund to defray the expense of importing the breed? Are not the general advantageous uses, to which the *Bactrian Camel* may be applied sufficiently great, and extensive to make the importation of the breed worthy of the serious attention of the national government? Let not this project be too hastily pronounced chimerical. Look over any of the well stocked, and cultivated farms of our country, and inquire, whence *originally*, came the various plants, and animals, which constitute their comforts, delights and riches? And a careful investigation will show, that they have been gathered from every clime, and almost from every region of the habitable globe. Why not add the majestic, long lived, placid, and valuable *Bactrian Camel* to the number of the auxiliary labourers and carriers for the active citizens of this nation? The subject is worthy the attention of every

AMERICAN.

AGRICULTURE.

Prince George's County.

JOHN S. SKINNER, Esq.

Sir:—Being instructed by the Board of the Agricultural Society in Prince George's County, in consequence of an offer you have made to the Vice President thereof, Dr. W. A. Daingerfield, to forward certain papers to you for publication in your very useful and interesting work, "The American Farmer," I take the liberty, in conformity to a resolution of the committee, to transmit the addresses of the President and Vice President herewith, accompanied with a letter from Mr. Lee, of Maryland tract, on the culture of Indian corn; also a report by Mr. W. Hebb, upon the amount and value of Tobacco exported from this country.

I enclose you herewith an abstract of our laws, as revised on the 4th of May, 1818, and have the

honour to sign with much esteem, sir, your obedient servant,

A. W. PREUSS,
Sec'y to the Agr'l Society in Prince George's County.

LAWS, &c.

Of the Agricultural Society of Prince George's.

I. The Society shall be styled, *The Agricultural Society in Prince George's County, Maryland*.

II. The Society's attention shall be confined to Agricultural, and Rural affairs dependent on it.

III. The Society shall have a President, a Vice President, a standing Committee of three members, (to be named by the President) a Secretary, and a Treasurer, to be elected annually, by the tickets of a majority of the members present at one of the stated meetings, in October. The office of Treasurer being, in the infancy of our institution, too inconsiderable to form a separate duty, is to be incorporated with that of Secretary; and, in case of any vacancy, by death, resignation, or removal of any of those officers, the place may be supplied by a new election, at the next stated meeting, to serve the remainder of the year.

IV. A quorum of business shall consist of at least five members, including the President or Vice President.

V. At all meetings of the Society, the President shall exercise the usual duties of that office; all motions shall be addressed to him, and on all questions he shall collect and declare the vote. In him is vested power to call to order, and open and close the proceedings; he shall also, have power to call special meetings, and to correspond with other societies; and in his absence the same duties are to be performed by the Vice President; and if it happen that at any meeting, both President and Vice President be absent, the majority of the members present (if forming a quorum) choose a President for that day.

VI. The Treasurer shall keep the accounts in the book of the Society, and when called upon by the committee, produce them for inspection. Whenever his office ends, he shall produce a fair and regularly stated account of all receipts, payments, and expenditures, and deliver it together with those books and all other property of the Society, into the hands of his successor in office.

VII. The Committee are to regulate and manage the pecuniary affairs of the Society, to order expenditures to be made when necessary, and issue their order on the Treasurer, signed by them jointly. They are also to collect all useful and curious information, to be presented to the body of the Society, and to be the depositories of presents of animals, curious seeds, utensils of late invention, made to the Society by individuals or other associations, or acquired by purchase; and to render an account to the Society of the use made of them, for the benefit of the members.

VIII. The Secretary shall have in charge all the books and papers of the Society, and keep the same in exact order. He shall also register all letters which shall be written by him, by order of the President.

IX. The stated meetings of the Society shall be on the third Mondays of May and October, at a place selected by the Society at each previous meeting.

X. The members of the Society shall be entitled to the privilege of introducing such strangers, as auditors to the meeting, as are desirous to become members of the Society. The candidate must be proposed at the opening of the meeting, and is to be elected by a majority of two thirds of those present, in his absence, before it closes. The Secretary then shall issue notice to the new member (if absent) of his being elected, to the following purport: "The Agricultural Society of Prince George's County, Maryland, have, at their semi-annual meeting on the ——— last, elected you a member, in testimony of their confidence in your capacity and inclination to promote the objects of their institution."

XI. For the purpose of defraying the necessary expense of the Society for paper, books, and postage, and to create a fund for other contingencies and objects, every member shall annually pay to the Treasurer a contribution of one dollar. This contribution shall be considered as due and payable at or before their first stated meeting in the year, and at the second meeting the Treasurer shall lay before the Committee a list of the members, specifying who have and who have not paid their contribution, and if, after twelve months' arrear, any member still remains indebted for his contribution, such member shall, after demand for payment has been personally made on him by the Treasurer, be considered as withdrawing from the Society, and be no longer deemed a member of it, and the same shall be entered on the minutes.

XII. When any new rule, or alteration in old ones, is proposed, the same is to be entered on the minutes and considered by the Society at the next meeting, and if two thirds of the members agree, then to pass into a law.

PRESIDENT'S ADDRESS.

I much regret that experienced and successful farmers are so diffident that they decline adding to the general stock of agricultural information, by imparting the results of their practice. That every one of us may be excited to contribute his portion to benefit his neighbours and his country, I will commence this address with an extract from Israelis' admirable work, entitled, *Literary Characters*.

"I have said, that authors produce their usefulness though their good is not of immediate application, and sometimes unvalued by their own generation. On this occasion, the name of Evelyn always occurs to me. While Britain retains her awful name among the nations of Europe, the *Sylvia* of Evelyn will endure with her triumphant oaks. In the third edition of that work, the heart of the Patriot exults at its result, he tells Charles the first, how many millions of timber trees, besides infinite others, have been propagated and planted by the instigation of this work. It was an author in his studious retreat, who, casting a prophetic eye on the age we live in, secured the late victories of our naval sovereignty—inquire at the admiralty and they will tell you that it was with the oaks that the genius of Evelyn planted."

The same character existed in France when De Serres, in 1599, composed a work on the cultivation of mulberry trees, in reference to the art of raising silk worms. He taught his fellow

citizens convert a leaf into silk, to become the representative of gold. I lately received a medal, recently struck in remembrance of De Serres, by the Agricultural Society of the department of the Seine.

This act of gratitude, in commemoration of the usefulness of De Serres, will, I hope be imitated in this country. We have too long erected statues and struck medals, only to transmit to posterity an admiration of heroes:

"Who heap'd the plain with mountains of the
"dead."

And we have too long neglected the benefactors of the human race, who have improved the cultivation of our soil, and caused abundance.

That wood is becoming scarce and dear, is now the subject of general conversation; we ought therefore to begin planting with Evelyn's foresight. Were we to plant Locusts, Chestnuts, Cherry trees, Persimmons and others of quick growth along our fences, they would grow without any loss of ground, and amply repay us for a little trouble in the autumn, when we can most conveniently spare hands. These trees would not only be an ornament, but would shelter our fields from the drying winds which are injurious to our crops. My best turnips were produced last year, near a hedge. In England, every field is sheltered by hedges, and their wheat crops average 25 or 27 bushels an acre. In this country, we seem still to retain the aversion of original settlers to woods, and pride ourselves on having lands cleared of every tree. I have planted this year, about three hundred trees, and in ten years, they will be worth four or five dollars each, not five in a hundred have failed; I mean to continue planting an equal number every year. It may be said that I shall not live to benefit by them, but I enjoy the thought that my successors will mention with affection, that I reared the trees which affords them shade, or gives them fruit—nay, if I wished to sell my retreat, its value would be greatly enhanced by my trees. In England, the wood of an estate, is always sold separately, every tree being valued as so much ready money.

Think how advantageous it must be, to have locust trees ready for rails, all along our fences. We might say with Dr. Watson, the Bishop of Landaff, that our own foresight and industry, had created a fortune for our children, exclusive of the arable land. If we had trees along our fences, they would claim our attention as we went over our farms, and we would expedite and improve the growth by trimming them.

I have thanked Mr. Crawford, the Secretary of the Treasury, in the name of our Society, for his exertions, to introduce all kinds of valuable seeds from abroad, and I have requested him to desire the captains of vessels, to bring plants of the Italian chesnut, that they may be engrafted on our own.

I recommend the subject particularly to your attention, as the rapidly increasing city in our neighbourhood, causes a great consumption of wood, which I have perceived much diminished even during my short residence in Prince George's county.

Evelyn recommends the loppings and leaves of Elms dried in the sun, as a great relief to cattle, when fodder is dear, and he says, that they are preferred by cattle to oats. The Hertford-

shire people, in his time, gathered them in sacks, on purpose for cattle and swine.

I have already quoted Sir Humphrey Davy's remark, that apple trees yielding apples of a particular kind, became extinct after a certain period. Let each of us sow seeds to make a nursery of apple trees, by which means we shall obtain a variety of fruit, and some may surpass even the Newtown pippins, which form now a considerable article of exportation.

I am sorry that my anticipation of a great fall in the price of cotton, has been realised, and I much fear, that the price of tobacco will be much reduced after next year.

Mr. Crawford, has estimated the exports of	
cotton last year, at	31,000,000
And of Tobacco, at about	10,000,000
And of wheat, flour, &c. at about	12,000,000

Making	53,000,000
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Out of our whole exports of 73,000,000, these three articles have fallen in value, about 20,000,000; we ought therefore, to pay our attention to a variety of new articles, which may afford a profit.

It is stated, in a newspaper, that the seed of pumpkins, makes very good oil, I hope that some of us will ascertain this by experiment. The writer says, an acre of ground of Indian corn, will nevertheless produce 50,000 pounds of pumpkins, containing 2000 pounds of seed, and that the seed will produce 200 gallons of oil worth about a dollar per gallon. Should this prove unexaggerated, we may rejoice, that when tobacco falls very low, we may have so profitable an article, so easily produced.

Opium, I think might be advantageously cultivated in our country, as the poppy* suits our climate. In India, the contractor supplies the East India Company with opium, at much less

* The magic operation of opium, derived from this interesting plant, on the mind, is beautifully described in Darwin's Loves of the Plants, beginning thus:

"Sopha'd on silk, amid her charm-built towers,
Her meads of asphodel, and amaranth bowers,
Where sleep and silence guard the soft abodes,
In sullen apathy PAPAVER nods.
Paint o'er her couch in scintillating streams
Pass the thin forms of Fancy and of dreams;
Froze by enchantment on the velvet ground,
Fair youths and beauteous ladies glitter round:
On crystal pedestals they seem to sigh,
Bend the meek knee, and lift the imploring eye.

* * * * *

By the same author we are told, that the Poppy has many males, many females. The plants of this class are almost all of them poisonous; the finest opium is procured by wounding the heads of large poppies with a three-edged knife, and tying muscle-shells to them to catch the drops. In small quantities it exhilarates the mind, raises the passions, and enlivens the body; in large ones it is succeeded by intoxication, languor, stupor and death. It is customary in India for a messenger to travel above a hundred miles without rest or food, except an appropriated bit of opium for himself, and a larger one for his horse at certain stages. The emaciated and decrepid appearance, with the ridiculous and idiotic gestures of the opium eaters in Constantinople, are well described in the Memoirs of Baon de Tott.

than a dollar per pound, if my memory does not fail me. The cultivator who sells to the contractor, pays ground rent about 18 dollars per acre, and he is also cheated in weight. Little children collect the milk, which exudes from incisions made in the poppy's head. The seed produces a very fine oil, without any narcotic quality, which is good for the table, and also preferable to all others for white paint. My physician in Asia, always produced opium from my garden, to make his own laudanum, as he said, that laudanum produced from purchased opium, differed in degrees of strength, on account of the adulteration of opium, and consequently a prescription of 20 or 50 would have different degrees of strength. The wholesale price of opium is now seven dollars per pound. If each farmer made only one pound in his garden, the whole produce would almost amount to the value of our tobacco.

I was pleased with my crop of turnips last year, although I sowed much too late, for as potatoes failed, they enabled me to feed my cattle and hogs, through the winter. This year, I am preparing my ground better. The manure my cattle produced, has been of great service, and I have no doubt that my arable land, will in two years, be capable of producing double what it did. At the first hearing of this, the mind calculates only a double profit to a farmer, but really his profit is more than quadrupled. Suppose the expense of seed, of ploughing, &c. to be two, and the farmer realises one third more; if this crop is doubled, he obtains four from two, and his estate will be annually improving.* When I first purchased my farm, I was ignorant of the different qualities of soil, but have from experience determined never to cultivate a poor soil, without previous manuring. Expense and vexation must always be the result of tilling exhausted land. Again let me recommend deep ploughing, it throws up new soil to be mellowed by winter frosts, and enables rain to penetrate low. My neighbour, Mr. Tolson, sets us all a good example, and exhibits abundant harvests.

Our horses and our oxen, are too small to do good work. I expect every day a bull and two cows, which will I hope, improve the breed of our cattle.

I wish very much for tracts upon the different kinds of corn and of potatoes. I left some potatoes in my ground last fall, for experiment sake, and am gratified by finding that they have all come up; these will give me a good supply du-

For Mrs. O'Neil's beautiful ode, celebrating the praises and the powers of the poppy, we refer the reader to the following number.

Ed. Am. Farmer.

* By this calculation it is evidently more advantageous to have half your hands hauling manure, and to cultivate only half your ground, because you will have an equal crop, with less expenditure of seed, and your accumulation of manure, will be an increase of capital.—I am so certain of this, that I expect to make my land, really worth \$200 per acre, by augmented productiveness. In Virginia, the average wheat crop, is from 5 to 10 bushels per acre, as labour is dearer in this country than in Great Britain, it is more important to cultivate less and produce more.

ring harvest; the small ones returned to the ground, after selecting the large ones in autumn, will thus produce an early crop, without trouble. Should this mode be a novel one, it being thus imparted, may prove useful to many.†

I hasten to conclude, being conscious that communications upon farming, must appear of little value to tobacco planters, who convert their meadows, and even their gardens to that herb which enables one hand to produce from six hundred to a thousand dollars per annum.

My desire is, to suggest what may prove profitable, when a superabundance of any one article will, by a reduction of price, induce us to give attention to some others of benefit to ourselves, and to the community. Our time of meeting enables me to congratulate you upon the prospect of an abundant harvest.

FOR THE AMERICAN FARMER.
HEDGING.—No. 2.

Having been led a little off the inquiry, into the subject of the *best material* for fencing, by endeavouring to describe some of the different kinds of thorn, most in use for hedges; I shall now compare that of *timber*, which is the general article of fencing, with that of a *living thorn*. Timber is made into fencing in various modes, according to the convenience or fancy of the owner; some kinds are more durable than others, and it is not in every case that durable timber can be had; therefore, such as we have, must be made use of, and a considerable portion of labour is necessary to prepare it for the purpose, whether of a durable kind or not; *all is perishable in its nature sooner or later*, which ought never to be lost sight of in making the comparative estimate, either with stone, or a quick-set hedge, (more upon stone hereafter.) *Thorn is the best material* for a living fence; it seems to have been formed by the Great Author of all our comforts, for the purpose of hedging, and as hedging was in use at an early period, we have no reason to doubt that the thorn was made use of, especially when we consider its advantages, above every other shrub that has been brought into use. It never aspires to be classed with the timber of the forest, but keeps always within the reach of control and management. If planted when young into rows for that purpose, and afterwards neglected, (which is often the case,) until it rises to the common height, 10 or 12 feet, and in that natural shape and erect attitude, it then becomes cumbersome and displeasing in appearance by obstructing a view of the farm. It may be cut off at a proper season near to the ground, and the cluster of young shoots that each stump will afford, will be sufficient, in two or three years, to

† The soiling system I must again and again recommend, as most economical and most profitable. It pained me to see my neighbour's cattle running over 60 or 80 acres, nearly one third of his farm, destroying all vegetation, and dropping their manure only to be exhaled. Suppose the land worth 40 dols. per acre, the interest will amount to 192 dols. and I am convinced the grass thus checked in the spring, did not produce as much food, whilst his field is deteriorating. Had he confined his cattle in a small compass, and mowed grass and carried it to them, his land would not have been impoverished, and he might have collected manure to enrich it.

form a hedge, in any other mode of training which the owner may choose. Should an error happen in his first attempt, in the manner or form of training, the subject is not past recovery; it may be cut away a second or a third time, and so on, the root continuing good, so far as the writer has seen experiments made, which were mostly with the cock-spur kind; though he has reason to believe the other kinds will bear a like treatment, if necessary. All are tenacious of life, and although they grow more luxuriant in a good soil, yet they will live on the most unproductive clay. The writer has observed some scattering stocks that were originally planted on the side of a public road, now a turnpike, as if intended for a hedge, but now entirely neglected; the cutting down of the road by travelling, left those stocks on the brink of a clay bank, without soil or any kind of culture, exposed to the inclemency of the northern blast; at least for fifty years having a northern exposure, and no visible change has occurred that can be recollected; they are yet living, and as likely to continue as they were half a century past.—This is mentioned to show the constitutional duration under the most sterile circumstances, and I might, if necessary, note divers others of similar duration, hoping it may be sufficient to remove that deep rooted prejudice which has got possession of some minds respecting its durability; this unfavourable conclusion having no doubt taken place from seeing certain portions or spots in hedges that have failed and become dead, without tracing out the cause.

The writer has known several instances, from some local cause; the walnut or cedar trees growing in the vicinity of a hedge, is sure to cause decline in the part near to it, and ultimately death will follow if the cause is not removed. It is thought to be the farina of the cedar, but the walnut has produced the effect before it arrived to that state of maturity as to produce farina. It has been well ascertained, that the different kinds of thorn have all been killed by those particular enemies, and probably there may be others equally pernicious, if observed.*

* A work might perhaps be written on the ANTIPATHY of Plants, quite as useful, if not as interesting as DARWIN'S "*Loves of the Plants*," if undertaken by a writer possessing his genius and his erudition. Numerous are the facts which might be collected, and curious the deductions that would follow, from the united labours of the Botanist and the Chemist. They might even inform us, for example, *why* it is, that, according to the authority of our correspondent, the same thorn which strikes its hardy root and flourishes in the most barren soil, will sicken and die in the richest loam at the approach of the *walnut*, whose shade and countenance, are known to contribute life and vigour, to many other individuals of the vegetable kingdom.

Nothing is better known, than that almost all the productions which engage the care and give profit to the labour of the Husbandman, prosper highly in the presence of the *locust* tree, while the *chestnut oak*, on the other hand, seems to carry about it, like Gozwin's famous *Misanthrope*, "an atmosphere of repulsion," beyond which no vegetable ever dares penetrate; within its sour and unkindly presence no vegetation is seen to flourish. A scientific inquiry having for its ob-

ject the cases and causes of vegetable hostility, might lead to useful discoveries in practical agriculture—it might show for instance, why it is that certain grain crops answer better than others as a sheltering crop for certain grasses, and *vice versa*—It might lead to the discovery, that the falling of certain fruit is to be attributed to the presence of some hostile tree, instead of being attributed to other causes—and saving from errors, as to causes, of course it would save us from numerous errors in the application of remedies—Such an inquiry might develop facts as regards the repugnance of various vegetables to each other that would even lead us no longer to regard as fabulous, the existence of that famous tree in the plains of *Java*—where

It is also reasonable, that a hedge should have the full benefit of *sun and air*, as will be shown hereafter, by removing every obstruction to that enjoyment.

It may be observed, that a *wooden fence* will decay also, in a situation where the freedom of air is obstructed by bushes, briars, or any rubbish, so certain to prevail where attention is wanting to keep hedge rows or fence rows clear from pestiferous productions.

—No spicy nutmeg scents the vernal gales,
Nor towering platan shades the mid-day vales;
No rassy mantle hides the sable hills;
No flowery chaplet crowns the tricking rills;
Nor tufted moss, nor leathery lichen creeps
In russet tapestry o'er the crumbling steep.
—No step retreating, on the sand impress'd,
Invites the visit of a second guest;
No reflux lin the unpeopled stream divides,
Nor revolant pinion cleaves the airy tides;
No handed moles, nor beaked worms return,
That mining pass the irremovable bourn.—
Fierce in dread silence on the blasted heath
Fell UPAS sits, the HYDRA TREE of death.
Lo! from one root, the venom'd soil below,
A thousand vegetative serpents grow,
In shining rays the scaly monster spreads
O'er ten square leagues his fair-diverging heads;
Or in one trunk entwists his tangled form,
Looks o'er the clouds, and hisses in the storm.
Steep'd in fell poison, as his sharp teeth part,
A thousand tongues in quick vibration dart;
Snatch the proud Eagle towering o'er the heath,
Or pounce the Lion, as he stalks beneath;
Or strew, as marshall'd hosts contend in vain,
With human skeletons the whiten'd plain.
—Chain'd at his foot two scion-demons dwell,
Breathe the faint hiss, or try the shriller yell;
Rise, fluttering in the air on callow wings,
And aim at insect-prey their little stings.
So time's strong arms with sweeping scythe erase
Art's cumbersome works, and empires from their base:
While each young Hour its sickle fine employs,
And crops the sweet buds of domestic joys!"

New York, June 26, 1819.

JOHN S. SKINNER, Esq.

Dear Sir—Among the important causes which are contributing to the display and cultivation of our internal resources, I must include the salutary influence of your excellent Agricultural Journal—"The American Farmer." We have long wanted papers in this country, exclusively devoted to those great and fundamental branches of industry and enterprise, which sustain the greatness, the grandeur, and the power of empires. Such publications have produced great effects in Europe; they will produce consequences of still more moment here, because, the field of improvement is more vast and fertile, than

any nation, beyond the waters, has ever presented.

You have congratulated me, upon the bold and munificent policy which distinguishes the state of N. Y. at the present period, in advancing the improvement of her internal trade, her agriculture, her manufactures, and her arts and sciences. All your feelings in this respect, are ardently reciprocated by me; and as a testimony of my sincerity, I shall now communicate to you some facts in relation to a great and stupendous work, in the vicinity of this city, which deserves to be ranked with our Canals; our Board of Agriculture, and other objects of public utility—I refer to the reclaiming of more than four thousand acres of salt marsh, a meadow, which we know here by the name of 'SWARTOUT'S MEADOWS.'

About four years ago, three gentlemen of the city of New York, General JOHN SWARTOUT, General ROBERT SWARTOUT, the present navy agent, and their brother, SAMUEL SWARTOUT, Esq. purchased two tracts of salt marsh, including four thousand two hundred acres, part of the tract lying at Hoboken, and a part at Newark. The ground when first purchased, was apparently of little value, being covered, in a great measure, by water, and subject to the perpetual inundation of the tides. It was so sunken and spongy, that a person could scarcely be sustained in walking upon it. It produced nothing but wild salt grass and appeared uncongenial to valuable vegetation. The bold and hazardous design of reclaiming these grounds, was viewed by the public as a visionary scheme, whose result would be a complete failure in the attempt, and a loss of labour and money. The proprietors were, however, gentlemen of fortune and enterprise, and commenced the great work with zeal and resolution, and have now convinced the public, that their imputed dreams will eventuate in solid realities.

A few days since, I visited these meadows out of curiosity, and was astonished at the grand and cheering prospect which they now exhibit. The proprietors have made *seven and a half miles* of embankment, which is sixteen feet wide at the base, and five feet high, and *one hundred and twenty miles of ditch*, of different depth and width! Thirteen hundred acres are completely reclaimed, and the soil so firm and solid, that armies might contend upon it, and chariots be driven over it with safety. The remaining part of the meadow is in a state of rapid improvement, and will soon be in a complete state of preparation for the growing of crops. Four hundred tons of excellent hay were cut upon them last season, and in many places, the production was as great as five tons to the acre. Forty acres in one place, is now covered with the most superior rye, and fields of corn, oats, and wheat, are flourishing in luxuriance, where but a short time since, nothing appeared but the wild sea grass, and a dreary receptacle for insects, reptiles, and water-fowl. All the vegetables which grow in the vicinity of New York, can be cultivated here to advantage—such as wheat, rye, barley, oats, corn, hemp, flax, peas, beans, potatoes, turnips, beats, carrots, &c. In one place, I saw half an acre of excellent asparagus, and on another spot a beautiful nursery of young locust-trees. The future value of these meadows, is indeed beyond

calculation. Consider for a moment, the rapid growth of our city; the thousands who are annually added to our population, and the high price of vegetables in our market; consider the vast depot, which New York will form, when the commerce of our great lakes, and the commerce of the ocean, shall form the emporium of exchange at the mouth of the Hudson, and then calculate the value of more than four thousand acres of land, as fertile as any in the world, with in the view of the spires and domes of our metropolis—and with me, I think you will say, who can tell its worth! I am not seduced from reason, by the visions of speculation.

One fact deserves particular mention, eighty-five cows, are now kept upon these marshes, and the milk daily brought to our city, in a purer state than is usually sold. It is sold two pence per quart cheaper than milk is generally furnished, and this is producing a general reduction of the price. Should this reduction become universal, and admitting that there are six in each family in our city, and that each family consumes a quart of milk per day, and the annual saving to the community, in this one article alone, would be one hundred and fifty thousand dollars! From three to five hundred cows could be easily fed here.

The improvement of these meadows presents another important consideration. Draining and embankment, are but little understood by the people of this country. Our vast and vacant regions of fertile lands, at the west and the south, have precluded the necessity of that rigid cultivation of waste lands, apparent over the face of Europe.—As population, however, clusters upon our seaboard and upon the borders of our great rivers, the expediency of converting such lands to value and fertility, increases. By many intelligent men, it has been calculated, that should all the marshes, and meadow lands of New England, be drained and embanked, where necessary, that she could sustain twice her present population. Whether this be correct or not, if the eastern states become, as they will, a great manufacturing country, the calculation applies to them with great force. Within the vicinity of the city of New-York, there are *fifty thousand acres of waste land*, similar to Swartout's Meadows. Is not the act of draining and embankment thereof of much consequence to this country? If the whole of this great tract of fifty thousand acres, within our sight, as it were, was completely reclaimed, the effect upon our markets, and even upon the health of our city, would be abundantly visible.

In making embankments, many improvements have been made by the proprietors of these reclaimed meadows. The muskrat has often been found very destructive to embankments, by perforating the ground in a thousand places, and thus defeating its very object. The great error was discovered at once by the Messrs. Swartouts, and remedied. The great error in most embankments has been, that they were thrown up too near the water's edge, and the ditch made next to the main land, instead of being made next to the water. This induced the muskrats to open channels and communications through the barrier, from the water of the river and the ocean, to the water of the ditch. This trouble is avoid-

ed by making the embankment at a considerable distance from the great body of water to be excluded, and having none on either side of it. No difficulty will ever be felt from these little animals of toil and enterprise, if the same plan is adopted.

In cutting channels or ditches, it has been found most expedient to have the sides slope more than is usually the case, coming to a point and forming an obtuse angle at the bottom. In this way the ditches cleanse themselves.

During one year, one hundred and eighty-five men were daily employed in improving the Newark and Hoboken meadows; and I have been informed by the proprietors, that they can now drain and embank at an expense one third less than they could when they commenced that magnificent work—so much for the lessons of experience and observation!

The soil of these meadows is a rich, black loam, which appears to have been formed by deposits from the ocean, and the long and repeated decay of vegetable matter. There has been a well sunk forty feet, and the soil appears still the same. The surface of the soil rises as you go from the interior towards the ocean, and is the highest near the edge of the water. The same circumstance occurs in viewing the marshes of England.

Draining and embankment are of great importance in Europe. The moors of Holland, and the bogs of Ireland, have long been recognized as an evidence of the fact. In England, this method of improving lands subject to inundation, has been carried to a great extent. It was even commenced in England by the Romans. The Saxons carried it to a considerable extent. At an early period in G. Britain, when lands were wrested from the sea, it was called "*inning*." In the days of Edward I, Edward II, Elizabeth, James I, Charles I, and Charles II, as well as in the days of Oliver Cromwell, the draining and embankment of lands was made the subject of Parliamentary concern, and important acts of Parliament passed on the subject. The Bedford level, which takes its name from being drained under the direction of Francis, Earl of Bedford, contains 300,000 acres. Romney Marsh includes a tract of land of more than forty thousand acres. Guilloid Marsh contains between three and four thousand. The Dymchurch Wall, in the county of Kent, is an immense embankment, and forms a road for carriages from Hythe to Romney. It is from 10 to 20 feet high from the surface of the marshes, and extends three miles. Besides draining the marshes, great advantages have been realized in England, by draining the fens. I mention these facts to show what other countries have done, and what we can do.

I could detail many more facts of interest, but conclude by observing, that I deem the three Messrs. SWARTOUTS entitled to every expression of praise, and every act of public patronage, that can reward great, bold, and successful projects, whose accomplishment is blended with public utility. They have wrested a sunken, dreary, unhealthy waste, from the ocean, and we shall soon see it covered with luxuriant verdure, waving fields of grain, gardens, groves of Locust, and whitened with flocks. And yet this stupendous work excites but little interest in our city!

There are thousands of enterprising, public spirited men, busied in great plans of improvement, who have never crossed the Hudson, to view one of the most magnificent undertakings that has ever distinguished the liberal spirit of this great state. But this cannot long be the case, public justice and public gratitude will soon awake, while we have those who project vast plans to develop the resources of our interior, and execute them by the exercise of public authority; we shall not forget individuals, who boldly march in the face of public ridicule, and raise a noble monument by their individual efforts, which will commemorate their names while public benefactors are esteemed and remembered.

With great respect,

Your obedient servant,

CH. G. HAINES.

NOTE BY THE EDITOR.

How many feet does the tide rise or fall at New York? There is in this respect a very great difference even between the Delaware and the Chesapeake—the rising and falling being very much less in the latter, than in the former. How is this to be accounted for—and is it practicable to reclaim marshes subject to overflow, where the tide does not ebb and flow more than three or four feet, as in the Chesapeake? To this interesting topic we invite public attention, as it is well known that there are now many thousand acres of profitless marsh on the tributary waters of the Chesapeake, which would, if reclaimed, be of incalculable value to the owners, contributing alike to their pockets and their health.

From the practical American Gardener, published by Fielding Lucas, junr.

For the Month of July.

Wall and Espalier Trees.

Examine, carefully this month, wall and espalier trees, rubbing off all irregular shoots, and aiming in all such regular growths, as are designed to remain; pick off all punctured and decaying fruit, rake them out of the garden; so such as have fallen, and destroy them, otherwise the worms, which are in the fruit, will soon come to the fly state, and commence their devastations.

Suffer no shoots to remain on the stocks of the grafted or budded trees, which would certainly rob them of their proper nourishment.

Destroy Wasps.

Before the fruit begins to ripen, hang up glasses filled with honey and water, or sugar and water, in different parts, among the wall, espalier, and standard fruit trees, in order to destroy wasps, ants, &c.

Clean the borders.

Mow and clean the ground about the wall and espalier trees, to destroy the weeds, which would rob the trees, of their just portion of nourishment.

General Observations.

Be particular in attending to weeding, shading, and watering, as directed in last month, which you should continue to train the evergreens, if you desire, and trim off all unnecessary shoots in forest trees and others.

Budding and inoculating.

The budding or inoculating of cherries, plums, pears, &c. is recommended by many gardeners, to be performed in the middle states, in this month, but it would be better to have been done, as described last month, which see, provided the wood will separate from the eye of the buds.

Apricots, if budded on plum stocks, or those of its own kinds, may be done in this month.

General observations.

Some of the early productions of the garden may now be gathered for use. Pick and carry away all decayed and fallen fruit, and if any of the trees are cankered, or have much gum, cut out the decayed part, and rub tar over the wound. It would be of use to turn pigs into the orchard, at this season to eat up the decayed fruit, and destroy the numerous insects therein.

Bulbous and Tuberous Roots.

Such bulbous roots are now to be taken up, as were not sufficiently matured, nor their leaves decayed last month, so as to be suitable to be taken up then, as ornithogalums, bulbous iris, martagon and other lilies. Plant the roots of fritillarias, crown imperials, dens canis, and such other bulbous and tuberous rooted flowers, as do not endure to be kept long out of the ground; and this being the season, when the roots are not in action, is the most suitable time for transplanting them.

The crown imperial may be treated as follows; lay a large fresh cow dung, in the place you design to set the crown imperial: then in the centre fix the root, crown it with another large fresh cow dung; after this cover the crown of the plant, about six inches with light rich earth.

Carnations and Pinks.

The choice carnations and pinks should be attended to, as directed in last month. Continue to propagate them, by layers and pipings, as directed in June.

When the layers are properly rooted, which will be the case with most sorts in four or five weeks after laying, provided they have been kept regularly moist, and screened from the heat of the mid-day sun, they are then to be taken off from the parent plant, with about half an inch of the stalk, which connects them, and immediately planted in pots, one, two, three or four in each. The pots should be filled with the compost heretofore recommended, and when they are planted the pots should be buried to their rims, in a convenient airy place, and arches of hoops placed over the bed, on which to lay mats, to shade the plants from the sun, till well rooted, and growing freely; also to protect them from heavy torrents of rain.

Here they are to remain till November, when they must be removed into their winter department. Other layers may be planted in beds of rich earth, where they are to remain till September, when they may be taken up and planted where they are to flower. Pinks may be propagated in the same manner.

Sensitive Plants.

The sensitive plants, which have been raised in hot beds, may, about the first of this month, be brought out in the open air, and placed in a very warm situation, for they delight in much heat. Some ought to be kept constantly under

glasses, for when fully exposed to the weather, they lose much of their sensibility.

Gathering and Collecting Seeds.

Collect all the different sorts of seeds, as they ripen: spread them upon papers in a dry shady place; and when sufficiently hardened, let them be carefully preserved in their capsules or pods, put up in paper bags, until the proper season for sowing them.

The seed of geraniums, xeranthseums, and of any other quick growing green house plants, may now be sown, and if properly treated, will attain a considerable size before winter.

Dionea Muscipula.

The *Dionea muscipula*, or Venus' fly trap, is one of the most extraordinary productions in the vegetable world. Each leaf is divided, as it were, into two joints, the lower part flat, longish, two edged, and somewhat heart shaped; the upper joint consists of two lobes, each semi-oval, the margins furnished with stiff hairs, like the eye lashes, locking into each other, when the lobes close like the teeth of a rat trap, to which the lobes, marginal hairs, and the manner of their closing, bear a particular resemblance. The interior of the lobes is very irritable in warm weather, at which time, if an unfortunate fly happens to creep in it, the lobes immediately fold up and confine it; the greater the efforts made by the insect to disengage itself, the more it irritates the interior parts, and consequently is the more firmly secured, where it remains until it perishes. When the irritation having ceased, the lobes open as before. The observer, by introducing a small feather between the lobes, will be amused with their closing upon it.

This plant is a native of South Carolina and Georgia, where it produces in July and August, bunches of handsome white flowers, on stems from six to eight inches high. In the eastern and middle states, it will be best to treat it as a hardy green house plant, although it has stood the winter in the garden of the House of Employment of Philadelphia.

It is propagated both by seeds and off-sets, which last are to be separated and planted in this month, in a swampy soil, with a mixture of fine sand, to be well watered and shaded in the summer months. The seed to be sown on a hot bed early in the spring, and forwarded with care until the summer, when to be managed as before directed.

The Tutsan Leaved Dog's Bane.

The *Apocynum Androsæmifolium*, or tutsan leaved dog's bane, is interesting, not only on account of its beauty and fragrance, but also on account of the curious form of its flowers, and their singular property of catching flies.

It is a hardy perennial, indigenous in several of the United States, flowering from the beginning of July to September. It is propagated by sowing the seeds in spring, which it produces abundantly in its native soil, or by parting its roots in March or October.

Auriculas and Pelyanthuses.

When any dead leaves appear on your auriculas and polyanthus, let them be immediately picked off, and suffer no weeds to grow in the pots.

Preserve them carefully from the mid-day sun, which at this season would destroy them;

keep the earth in the pots always moderately moist.

The auricula and polyanthus seedlings, that were sown last autumn, if they have grown well, and of sufficient size, should be planted into boxes or pots in the last week of this month, or the first in August, and placed in the shade, to grow to the middle of October, when they may be more exposed to the sun, and early in November, taken into their winter quarters.

General Observations.

Clean all the borders and flower beds from weeds and every thing which disfigures them.

Stake and tie up the flowering stems of such plants as stand in need of support, to prevent their being borne down by winds, heavy rains, &c.

Cut down the stems of such fibrous rooted plants, as have finished their bloom, except where the seeds are wanted; all such ought to be removed as soon as possible, as their appearance is unpleasing. By this means, the plants, though past flowering, will appear more lively, and the bloom of the others will show to greater advantage.

When there is an over proportion of young fruit set on the limbs of orange, lemon, citron, and shaddock trees, thin them to a reasonable number on each, in proportion to its strength; they may be divested of all flowers produced afterwards.

The earth in the tops of the tubs, should be taken out frequently, and particularly at the time of fruiting, for two or three inches deep, and replaced with fresh compost, which would greatly encourage the growth both of the fruit and the trees.

Those plants which require larger pots, may now be shifted, agreeably to directions.

Propagate Plants.

Continue to propagate the various kinds of green house plants, by cuttings, layers, suckers, &c. as directed in the preceding months, most kinds will still succeed, by cuttings of the present year's wood if carefully planted, duly shaded, and moderately watered, they will now take freely, in suitable earth, without the assistance of a hot-bed. Let the cuttings be taken from healthy plants, they should be from four to eight inches in length, and strong shoots. The leaves should be stripped off more than half way up, and the cuttings planted about two-thirds of their length, in suitable earth, placing hand glasses over them, also shade and water them.

Transplanting Seedlings and Cuttings.

Such seedlings of green house plants, as have been raised from the spring sowing, which are now three inches high, or more, should be transplanted into small pots separately, and immediately watered; they must be kept shaded, till well taken with the earth, and fully growing, after which screen them from the mid-day sun for the remainder of the season.

Many of the cuttings planted in spring, will be well rooted by this time, and may now be taken up with as much earth as possible about their roots, planted separately in pots, and shaded for eight or ten days from the mid-day sun; keep the earth in the pots moderately moist.

THE FARMER.

BALTIMORE, FRIDAY, JULY 9, 1819.

Present Prices of Country Produce

Ascertained by actual sales, within the last week.

Live Stock. Fourteen bullocks—sold by Mr. Wilson, near Charlestown, Virginia, averaging about 750 wt. each—to the Messrs. Rusk's, for \$8 50 per hundred.—The meat, was equal in quality, to any we ever saw—it sold, the price pieces, for 12 1-2 cents per pound. Two of the bullocks, above-mentioned, yielded 419 pounds rough fat.—**Chickens** 2 50 to \$3 per dozen.—**Young Geese** 62 1-2 cents each.—**Veal**, from 10 to 15 cents per pound.—**Mutton** 6 to 8 cents.—**Bacon**, retail, 12 1-2 to 15.—**Salt beef**, prime pieces, per pound 8 to 10 cents.—**Salt Pork** 9 cents.—**Eggs**, per doz. 25 cts.—**Snap Beans**, 37 1-2 cents per peck.—**Potatoes**, new crop, 50 cts. per peck.—**Herrings**, per barrel, 2 75 to \$3 for No. 1—No. 2, 50 cents less.—**Pork**, per barrel 16 to \$20, according to quality.

Tobacco, Patuxent, 8 and \$10 and 10 a \$12 according to quality—some sent by Mr. CRANE, near Parker's Creek, Calvert County, sold by Mr. JOHN SPICKNALL, for \$11, quality, long brown: some wagon Tobacco, on Wednesday, for \$12 50; Corn, Red and White, 50 cents, from Delaware, yesterday—Rye, from same place, sold yesterday, 100 bushels, for 65 cents. Red Wheat, from Fairlee Creek, Kent County, for \$1 15—about 50 bushels of new Red Wheat in market yesterday morning—\$1 12 1-2 was offered, and \$1 15 asked.—Oats 50 cents.—Hay, from 17 to \$18 per ton—Straw, \$10.

From the American Critical Review, of January.

NEW YORK AND ST. PETERSBURGH.

During the last summer, two American Ploughs, of an admirable plan and exquisite workmanship, were forwarded to the Czar of the Russias; one as a model for his cabinet, and the other for employment in the field. They were conveyed, by permission, in the public ship, commanded by Commodore Macdonough, that carried the Minister, G. W. Campbell, to Muscovy. A note of address, and explanation was elegantly engrossed, and tied to the handle of one of the ploughs, before it was nailed up in the box. We offer to our readers a copy of that document, which so nearly resembles a state paper, that it cannot fail to interest, not only our patrons, but indeed all the lovers of their country's fame and honour.

SAMUEL L. MITCHELL, a citizen of the United States of America, to ALEXANDER, Autocrat of all the Russias.

May it please the Emperor,

I have been induced to offer, for the acceptance of his imperial majesty, a Plough, which is considered generally in these parts of America, superior to any instrument of the kind that has ever been invented.

Previous to taking this step, I consulted my friend, the honourable Andrew Daschkoff, his

majesty's minister plenipotentiary in the United States, who feels a lively interest in every improvement that can be useful to his country. As the time of his departure was uncertain, he recommended that the plough should be intrusted to Mr. Campbell, the new minister to the imperial court of St. Petersburg, who could, with propriety, bring it to his majesty's notice through the secretary of state or the agricultural society. Mr. Daschkoff also encouraged the persuasion, that it would receive the approbation due to its merit. Application was then made to the honourable John Quincy Adams, secretary of state, at Washington City, for leave to send the plough to its destination, in the public ship, now bound to Russia. The matter was submitted to the president of the United States; who consented that directions should be given to the commander of the Guerriere, that the plough for the emperor of Russia might be received, for conveyance on board that vessel, now lying at Boston.

The inventor is Mr. Jethro Wood, a respectable farmer, residing in the county of Cayuga, and state of New York.

The constructor is Mr. Thomas Freeborn, a very worthy artist, living in the city of New York.

They both request me to express their earnest hopes, that this *Georgical Utensil*, contrived by the genius of the former, and manufactured by the skill of the latter, may be graciously considered by his majesty.

The advantages of this plough are manifold but may be referred to the following principal heads: 1. Its greater aptitude to penetrate the soil, and form a furrow. 2. A simple and desirable fitness in the mould board, by means of the spiral form of its inclined plane, to raise the sward from its horizontal bed to the perpendicular, and to turn it upside down. 3. The substitution of a cast-iron plate, of the cost of half a dollar, to be screwed to the low and fore edge of the mould board; instead of the heavy, expensive, and old-fashioned share. 4. The use of cast iron, instead of hammered iron, for the mould-board itself, and the several land irons. 5. The construction of the entire plough, with the exception of the beam and handles, of cast and wrought iron, whereby every part is properly braced and secured. 6. Its moderate price, its strength, and durability; and the small expense of time, labour, and stuff, requisite for repairs. 7. The saving of a considerable portion of the labour of the beasts who draw, and of the man who conducts the plough. 8. The handsome and workmanlike appearance of a field prepared for planting and sowing by this instrument.

Inspection and practice will disclose the other conveniences of Wood's FREEBORN PLOUGH, which is thus placed at the foot of the imperial throne.

SAMUEL L. MITCHELL.

Late Senator in Congress for New York, Professor in the University, Member of the Agricultural Society, &c.

New York, June 22d, 1818.

PRINTED EVERY FRIDAY,

For John S. Skinner,
BALTIMORE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norunt
Agricolae." . . . VIRG.

VOL. 1.

BALTIMORE, FRIDAY, JULY 16, 1849.

NUM 16.

Prince George's County.

Documents of the Agricultural Society, concluded from our last.

ADDRESS OF THE VICE PRESIDENT.

"Hic labor, hoc opus."

SIR—Humbly qualified as I am, it is with no small diffidence I address the President of the Agricultural Society of Prince George's County, at a period so especially imposing. Splendid theory, is already the current coin of the day, and productive practice is becoming constantly more frequent wherever our art is cultivated with the care it merits.—But I have, sir, no speculations to offer, by the interesting and ingenious originality of which I can hope to instruct, or even amuse. I have no practice to exhibit, or the magnificent productiveness of which, I can aspire to command rational admiration, or excite gaping wonder and astonishment.

Unlike Sir Humphrey, whom it is most fashionable now to quote on almost, every occasion, I have no chemical doctrines in readiness, to solve, to my own satisfaction, even the numerous and perplexing questions which beset us, at every turn we take in the practical walks of our most important, yet very difficult art. Unlike Mr. Gregg, of England, or our own De la Plaine, of Maryland, the latter making a thousand bushels of grain (including grain of all sorts) per acre, and I have no report of produce to set forth, which, by its smiling physiognomy, its alluring and prominent features, projecting in bold relief, and serve to cheer agricultural enterprise and industry, dispel the doubts of the sceptic, reanimate the hopes of the unsuccessful, and meet and satisfy the sanguine expectations of the bold, experienced, dashing projector.

Yet, Mr. President, a sense of duty, arising from the relation in which I stand to this board, urges me to tender it, with due and timid respect, the humble results of my own limited experience, and of a still more limited range of observation. These results I do not presume to offer, as guides to the practice of others. Some of them may, however, subserve a sort of negative purpose. They may stand as beacons, to prevent the shipwreck of future adventurers, by pointing out the rocks on which my little bark has occasionally struck, in daring to navigate the dangerous sea of agricultural experiment. My own observations and experience, then, prefaced by a few remarks, which I deem it not improper to make, on what I conceive to be the true objects of this association, and on the spirit in which they should be pursued to their complete attainment, will constitute the pittance of contribution I have to offer, at this time, to its indul-

gent notice. In my humble opinion, therefore, this association should consider itself the self-appointed guardian of the infant agriculture of the county. It should feel towards its ward, all the kind affections of the tenderest parent; should study her very constitution, and if it be formed delicate, or a little impaired by previous bad treatment, as most probably it may have been, should apply to its restoration those invigorating means, which affectionate zeal seldom fails to discover, and which with equal certainty, will conduct her, in safety and with reputation, to the period of sound, independent adult-maturity, when, with grateful kindness, she will not fail to dispense to society at large, the blessings which the first of arts never refuses to bestow on laborious, intelligent man. The small number of members belonging to this society, and the manner in which its meetings have been hitherto attended, give occasion to infer, that the agriculture of the county needs no improvement, or, that the improvement needed, is not to be obtained from societies, but from individuals, left to manage their own affairs in their own way—the former inference however is too obviously and grossly inconsistent with fact, to need serious refutation, and the latter will meet its refutation in numerous arguments, to be drawn from the history of agriculture, and from the more comprehensive history, still, of human nature itself. The history of our art, if faithfully consulted, will fully show, that wherever societies, for its improvement, have been established, provided they have been well conceived in their organization, and duly executed, general improvements in rural economy, has been the necessary result. For instance, let us give the agriculture of Scotland, England, Switzerland, &c. in Europe. In the United States, that of Pennsylvania, New York, Massachusetts, &c. and more recently, the improving agriculture of Virginia, and in some parts of this state, perhaps, under the fostering influence of recently established societies.—Whilst on this topic, let me not forget to remind the inhabitants of Prince George's, that their society, though a neglected child heretofore, has the right of primogeniture in its favour, which, though not legitimate in a political, is certainly honourable in an agricultural sense. The history of human nature shows, that man's noblest aspect is exhibited in his associated actions. It is when his energies are combined, by one common feeling, in one common cause, that his greatest importance and dignity appear. All this results from a constitutional, implanted principle of his nature, enthusiastic zeal, which never fails to show itself, when men are associated by strong feeling, proceeding from a conviction of the importance of a joint cause, tending to common benefit. This principle needs only to be enlightened, ever to conduct to valuable results. It is the constitutional object, therefore, I humbly

conceive of this board, to exercise, first, the noblest zeal in question, and then enlighten it, by every means within their reach. These means are either external, or internal, to be found among others, or among ourselves. Wherever they are to be found, it is the bounden duty of this association to find them, then to make them public property, by the publicity it has the power to give. Our board, then, to pursue its noble purposes, in their true spirit, should diligently cultivate both, but more especially the latter. It should rouse the internal resources of the county, by exciting a disposition to observe, and to experiment, in every nook and corner of it. Are the Princegeorgians, contented with their rural economy, imperfect as it is, or do they mean to be supinely inactive, to depend on their ignorance being enlightened from abroad, and thereby, at once, violate every sacred duty of independence and magnanimous patriotism? Is it, that they claim a right to act, in the spirit of a maxim, often attributed to Mr. Jefferson, but justly belonging to the French economists before his time, namely, that every person should be left to pursue his own business, in his own way. If so, let it be recollected, that this maxim, is, no doubt, a sound one, when applied only, as it ever should be, to municipal regulations, to provisions of positive law; but wholly false, when attempted to be made applicable to the affectionately parental admonitions of an association of independent individuals, combining their knowledge, their zeal, their benevolence, in a common enterprise, and that enterprise the most interesting to humanity, owing to its having for its object, the improvement of an art, vitally essential to its best interests.

These arguments, drawn from moral duty and rational prudence, it is hoped, will not be deemed deficient in strength, especially when aided by the more useful consideration, that, to devise the means of improving poor land, would operate powerfully, as a cause, to prevent emigration, and thereby increase the value of land in general, by keeping up an effectual demand for it; if, however, they are not yet strong enough for their purpose, what can be said, in answer to the following, drawn from a religious source. The God of nature has blessed the inhabitants of this county, generally speaking, with a soil originally fertile, and therefore, though much reduced at present, readily improvable by the practice of proper means. Would not, then, the diligent pursuit of such means be an expression, at once, of a sense of gratitude to their God, and of duty to themselves.

In drawing the distinction, between municipal regulation, and the admonitions of a society of independent members, free with the rest of their fellow citizens, to embrace or regret similar admonitions, by the exercise of the right of private judgment, I omitted to enforce, as I should have

done, the difference in principle, by some practical illustration. Suppose, in the recent high prices, that have been given for land and negroes, in consequence of the extraordinary high prices, of produce, of tobacco in particular; again, in the change of grass to arable land, for the purpose of cultivating that plant, an agricultural society, respectable for its intelligence and benevolent zeal, had interposed its advice, as such a one, ought to have done, that advice founded, too, on the solid basis of past experience, in similar cases, and on the soundest and most perspicuous principles of political economy, might not many individuals, nay the community itself, to a considerable extent, have been protected against the injurious consequence, of such speculations and of such practice. In such a case, the inflexible control of positive law, would have been tyrannical, and like all other tyrannies, necessarily injurious.

Skilful, prudent, wise agriculture, then, to arrive at the highest grade of profit and dignity, should be a steady, consistent principle, and not subject to the caprices and whims of sudden changes, like such as take place in what is emphatically called fashion.—A man may capriciously change his dress and his furniture, with comparative impunity, because, the changes are not so momentous in their consequences, and may be more readily remedied, being an affair of present pecuniary loss merely. But, when the routine of a farm is changed, and a concurrence of adverse circumstances make the change an unpropitious one, its consequences are, from their nature, permanently felt, and the remedy is, necessarily distant. This is more particularly the case, perhaps, when the culture of the necessities and conveniences of life are changed for products that only subserve the purpose of mere luxury. I omitted to make one somewhat important remark, perhaps, when on the topic of the spirit, in which this association should pursue its objects. It should do every thing in its power, to encourage communications from individuals, distinguished, as good managers in the general, an object, certainly more worthy of its notice, than particular success, in a particular crop, occasionally. Such communications, should be solicited, on any terms, as to mode, whether made by the person himself, or by another faithfully, for him, in writing, or verbally, as may best suit the convenience of him, who confers the obligation by communicating desirable information.

In oral communications, something like a *process verbal*, might be officially taken by the secretary. When matters of importance are thus collected, they should be speedily made public, at the expense of the society, if necessary, according to constitutional provisions. In a word, all the officers of this institution, should be scrupulously exact, and most punctilious in the performance of every duty. Their lamp of zeal should burn with a pure and constant flame, as it is there, that others will, and perhaps should expect to light up theirs.

I have made the foregoing observations, with due deference and respect, and in the earnest endeavour to remove some prejudices which I suspect exist, relative to the association, and which are founded in false notions as regards its objects, and its capacities to be useful. If these prejudices were removed, I doubt not, but that the respect-

ability of this board, growing out of a sense of its usefulness, would be gratefully felt, and as gratefully acknowledged by all intelligent persons, engaged in the rural affairs of the county.

I am now arrived, at the practical detail of this address. Having established, in a former part of it, my own observation and experience, as the standard to which I should refer particulars, in this stage of my communication, I am free to state as follows:—That I have completely abandoned, never to be resumed again, I expect, the *fallow system*. For several years my wheat crop has been diminishing, as well as that of rye, in comparison with what I used to make after Indian corn. The same effect has taken place as to clover, and even oats, in land of the same, or rather improved quality. In many parts of my fallow fields, the wheat and clover have been destroyed by the blue grass. Here, I think I am warranted, by my standard, to advance an opinion, in which it may be, few will join me. It is that this blue grass, on whose devoted head innumerable curses and execrations have been heaped by ungrateful man, is destined, at least in this part of the world, to be one of his principal instruments of improvement. To give it the requisite opportunity of effecting this important purpose, the rotation of crops should be as follows:—Corn, wheat, rye, or oats, succeeded by clover, which is to waste into blue grass, two or three years, exclusive of the stubble year. If one had shifts enough, three years would, probably, be the best interval between grain crops. I deem myself warranted, by my standard, in saying, that the more blue grass land is stocked, when somewhat previously improved, the more that improvement progresses, and the more excellent the pasture becomes. It is the latest, the earliest and the best I have; it is not inconsistent with the growth of some timothy, and a good deal of white clover, during a part of the summer. It is agreeable to my standard, to say, that wheat is the most difficult of all crops to make. It must be, indeed, in clean, manured land, if any certainty, or any considerable amount of crop is expected, it must be seeded by the last of September, or the first week in October. I have often known a few days make the difference between a good and bad crop, more particularly if the land is not manured. In manured ground, later wheat will, in some instances, look very well; but it will not be as well filled as forward. It is conformable to said standard, to say, that plaster has no manner of effect, in any of its usual quantities, on my farm, nor on an adjoining one belonging to my brother, nor do I believe it has the effect that is frequently ascribed to it, on many others. It should, on this subject, never be forgotten, that error may be so associated with truth, as that man shall scarcely be able to make the separation; hence the various superstitions that have existed in the world; some of which, perhaps, will ever continue to exist, supported by the truth, with which they have been constantly conjoined. Let us, for a moment, here, examine this principle, as it applies to plaster. Deep and good ploughing, one of the most unequivocal modes of improvement, in almost every soil, is now, with those that use plaster, and believe in its efficacy, an almost constant adjunct. Manure, the most certain mode of improvement, is frequently, now an adjunct. I shall, on this topic, an occasional combination,

partly of a natural kind, which I do not recollect ever to have seen adverted to. It must be obvious to every accurate observer, that by the mere mechanical mixture of the primary earths particularly where fine soft clay predominates with more or less gravel or stone, there is a clover capacity given to land. This clover capacity, if I may be allowed the expression, may and may not exist in spots but a few yards apart. Suppose an experiment is made with plaster. A portion is applied on a spot having this capacity, which is to be compared with a neighbouring spot not possessed of it, on which no plaster is applied, the result will be as might have been predicted, a great difference; yet the difference is not attributable wholly to the plaster, hence it is impossible to say how much of the effect is to be ascribed to that cause, and how much is not; in a word, it is difficult, perhaps impossible, to say whether any of it be thus ascribable. On some soils, the greatest believers in plaster agree, that it is wholly inert—here the same experiment, as above, might be made, with the same result possibly in this case; according to the very terms of the proposition, plaster could not have any effect. It must, then result, if there be any difference from the mechanical mixture of the elementary earths, being different in the two spots, or from some other cause. There is no manner of doubt, that this difference in mechanical mixture, though not completely describable, *a priori* by the eye, or any other sense, may make a very great difference in the clover produce of two different pieces of land. Whenever this difference does exist in favour of a clover capacity, deep ploughing alone, especially if in conjunction with a little manure, will make a most astonishing improvement of the clover crop, as I have often known to be the case. In such a case, if plaster had been used by one of its admirers, most of the improvement, if not the whole, would probably have been ascribed to it. In the month of February, I applied (at the rate of two bushels to the acre) plaster to a tobacco bed, previously manured by the deposits of horn cattle and sheep, half of the bed not plastered. The plastered part is not nigh as good as the other, it being a little drier, and the season deficient in moisture. I have plastered some corn land, highly manured with long manure, and some adjoining land, manured in the same way, (the manner in both, with the plaster on its surface deeply ploughed in) is left unplastered, to compare the results. I shall furnish, in the course of the summer, all the experiments I shall probably ever make with this, in my estimation, founded on numerous, and valued experiments, a perfectly inert body, they will have for their object the testing of its supposed sceptic principle. It is inconsistent with the above standard to say, that stock enough should be kept on every farm, to convert all its offal into manure, which is to be carried out in its long state, and ploughed as soon as possible into the land, and as deeply as possible—all the manure, within one's power, being raised.

I am warranted by said authority to say, that he will, of necessity, be among the best farmers and planters, practically speaking, who keeps the best teams and feeds well; keeps the best instruments of all sorts, and indue numbers and variety; who uses those well and in time,

and seeds in time, and plants in time, and who destroys conflicting vegetables in time. I have seen somewhere, a theory of agriculture set forth in the following simplicity :

"It is to dispose of redundant water, and to destroy weeds." A little reflection will instantly show the comprehensive import of those two actions, and that very probably most of the circumstances of good farming enumerated above, are resolvable into them. It accords with my standard, to say, that all the animals which it is prudent to keep on a farm, should be well fed, particularly in the tenderness of infancy, which will make them larger and healthier, and somewhat less food will be necessary afterwards to make them look well. It accords with said standard, to say, that oxen are very valuable on a farm for deep ploughing, heavy draft on level ground, and a short distance; that they are much cheaper in their food than horses. I have had them wrought every day, in winter, Sundays excepted, at hard work too, with little more than oat-straw, which is an excellent food for them—that and Ruta Baga would be amply sufficient. The same authority bids me say, that pumpkins and turnips, in both of which, I have had much experience, as articles of food, are not sufficient of themselves to feed stock; but that they greatly cheapen other sorts of feed, by lessening the requisite quantity, more especially when there is a convenience for boiling them. In the use of these substances, there is this consideration to be taken into view, they are destined by nature to have not only the effect of food, but that of medicine—otherwise I believe they would be nutritious enough of themselves; but their purgative or laxative effect, passes them off too soon. An excellent medicinal use may be made of turnips, by giving them to horn cattle, kept up in winter to wheat straw, &c.; they become very costive, and a feed of turnips, two or three times a week, would counteract that effect, which is very injurious to their health. Those two articles of food aid very much in converting straw and corn stalks into manure—green clover in summer, contributes very much to that effect. I am sanctioned by the same authority to say, that the principles of the farmer, and his instruments too, may be applied to the successful formation of tobacco beds, namely the plough, harrow and roller. I have a piece of ground consisting of about three quarters of an acre or more, in the estimation of judges, some parts of which had been some years ago, in tobacco beds; other parts were in trees of some use, grubs and many stumps throughout the whole. I penned, at night, about fifty horn cattle and two hundred sheep in this spot, for about five weeks, in the last of October, and throughout November: they manured it very highly. In the winter I took up the trees by the roots, all the stumps and grubs, and with a two horse plough, turned in the manure about two inches deep. In February I burnt it, harrowed out all the small roots, seeded, raked, and rolled one half of it; the other was seeded the first of April. The part first seeded, is an excellent bed, as good as any I have seen; the other is promising as a later bed. The predictions that the plough would be injurious, that grass seeds would destroy it, &c. &c. have all proven false. When the plants are taken out, I shall seed it down in oats, and plough them in,

and raised from time to time, to destroy weeds that may come up, and fertilize, at the same time. In September, I mean to seed it down thickly in oats and rye, to be pastured from time to time by sheep: the oats will perish as the severe frosts come on, and the rye will serve for some ewes and lambs, throughout the winter, in open weather, until about the middle of February; when, after a free application of ashes, I shall use the plough, harrow in the seed with a light harrow, followed by the roller as before, and repeat the same course, except manuring by stock from year to year, with scarcely any trouble. My standard sanctions me in saying, that sheep on dry sandy ground, in winter, provided they have a dry field to run on in the day, will manure a considerable quantity of ground for tobacco, by moving their pens, from time to time, taking care to have a permanent shelter, to which they may be removed in stress of weather. That stock hogs may be confined in winter, with as little expense, provided they be kept dry and warm, as if let to run out, this too without the risk of their being stolen; and, if they be well supplied with long litter, will make a great deal of manure. It is consistent to say, that I have since the winter applied manure, made from offal as above stated, on different parts of the farm, amply sufficient for thirty acres. I can also say, that turnips are the most exhausting crop I know. It is farther consistent to say, which I have the happiness to state to your wearied patience, as my last act of consistency, that a large farm, complicated in its products, requires unremitting labour, timely and severe attentions; that the cultivator, to succeed, must regulate his every action, in the spirit of my motto, "*Hic labor, hoc opus.*"

WM. A. DAINGERFIELD.

N. B. It is not intended to deny the efficacy of plaster on some lands, but to deny its efficacy, as relates to my own observation and experience, and to express general doubts.

FROM T. S. LEE, Esqr.

On the Culture of Indian Corn.

Dear Sir,

NEEDWOOD, MARCH 9, 1819.

Your favour of the 5th December came duly to hand, and it should have been replied to much earlier, but a long confinement by the gout, prevented my attending to business of any kind, and the delay was increased by the carelessness of my servant mislaying the letters; they are now before me. I wish it was in my power to give satisfactory answers, to Mr. —'s interrogations. I will comply with this, and your request, as well as desultory training enables me.

A few ideas picked up here and there, induced me to conduct my farming business as follows: The basis, deep ploughing, heavy manuring; clover, and plaster were also resorted to freely, until I paved the way to procure animal and vegetable manures, in sufficient quantity. From necessity, I commenced with long, or half rotted manure, and fortunately it proved by experience, the best way of applying it. Carry twenty cart loads to the field for each acre, spread and plough it in under a deep furrow without loss of time, the seams of the furrow to be closed, to prevent

the atmosphere exhaling it, and interrupting the fermentation; no danger of its sinking even in a sandy soil, because both animal and vegetable manure rise to the atmosphere. My course is, to take four crops in succession from the same field, viz: 1st Corn, 2d Wheat, 3d and 4th years Clover. Commencing with corn—let the field be in good heart, manure as above-mentioned, spread and ploughed under a deep furrow as speedily as circumstances will permit; harrow down the ridges and close the seams of the furrows for the reasons before assigned. In due time, cross plough, then cross again with a heavy harrow; lay your rows out in straight lines; this operation to be well performed and may be best done with the plough, the distance from three to four feet each way; let the seed be good, sound and heavy, and from fruitful ears; place the grain with regularity in the check. Now, if the earth be friable, introduce the shovel plough, an excellent tool, if skilfully used, the light harrow crossing the ploughing: a smart hand, with a light hand rake with three teeth, may uncover the corn and open the crust occasioned by dashing rains and the heat of the sun, both harrow and plough to run so near the corn, as to remove the greatest part of the hill, which may be again restored by the same operation; the plant must be firmly set, before this is attempted. If the field be infected by weeds or grass, then again carry in the small harrow: the plough removes them, and by breaking the earth from the roots completes their destruction.

Previous to sowing wheat, the small harrow should leave the surface level, that the grain may be strewn with regularity. Unmixed wheat, entirely cleansed from filth, sound and heavy rolled in plaster, and sow seven pecks to the acre. Before seeding, take out the tops, and have the blades taken off; plough in the seed, not extending three inches deep with the shovel plough, the small harrow to cross the work of the plough, that the place called the step may be levelled, and the seed thereon covered; the hoe then to chop about the corn, taking care not to draw the earth from the hills, but to raise and let it fall perpendicularly, all clods to be pulverized; lastly divide the fields in lands, three corn rows in width, and lay them off to suit the situation of the field, so as to guard against washing into gullies, so that draining furrows may be useful; as soon as the corn can be gathered with safety, cut the stalks near the ground, and carry them to the place designed for sheltering your stock; they will then be heavy and contain saccharine juices; the cattle and hogs eat them with avidity; after they are picked apply a part to cover shelters, and what remains will answer the double purpose of defending the stock from the cold, wet earth, and of augmenting your stock of manure.

Early in March, sow a gallon of clover seed, mixed with a bushel of plaster, to the acre. By adhering strictly to this method, a good crop of corn may be reasonably expected, and a crop of wheat of good quality, and in quantity but little inferior to the produce of a fallowed field. Clover rises with vigour after corn. Give to the clover a bushel of plaster to the acre, early in the spring of the third and fourth years; the operation of the harrow leaves the surface level for mowing and cradling; the third year will af-

ford a good crop of hay, and afterwards seed, or it may be grazed; the fourth year, the clover may be grazed. By this course, as much benefit will be from the increased fertility of your soil, as from the crops. In this routine, the Indian corn is rather a protecting, than an exhausting crop, from the partial covering it affords the bosom of the earth, at the season when the sun has most power, at the same time letting in sun and air sufficient to promote the growth of the crop. Manure cannot be had from the farm in the commencement, but with due care and perseverance, supplies may be had without foreign assistance; and when that is effected, the quantity may be increased almost to any extent. Besides the leavings of straw of all kinds, corn stalks and fodder, all weeds before seeding, draw leaves from the woods to litter your hogs, mix them with straw for sheep, cows and horses; the droppings from the horses and cattle to be collected from the roads and lanes on the farm by the negro children. If there be marshes at hand, cut any coarse grass and haul up to be added to the manure heap. Ashes, lie, and even soap suds, may be made useful on the occasion.

MR. HEBB'S REPORT.

Sir,

OCTOBER 18, 1818.

Since the last meeting of this society, I have had an opportunity of complying in part, with a resolution, passed at the last meeting, appointing Mr. J. LAW and myself, a committee to report the amount of produce exported from this county, in each year. The only article, that I have been able to ascertain with certainty, is the crop of tobacco of 1816, which, according to the returns made by the inspectors, amounted to 4460 hogheads inspected in the year 1817, as the product of the preceding year, to which may be added, 200 hlds. shipped out of the county without being inspected; to this quantity may be fairly added, one fourth, as the increased product of the last year, equal at the present averaged price, to \$873,000; a sum perhaps not equalled by any county in the state of Maryland. In the cultivation of this plant, great improvement has been made of late. It is now generally admitted to be as innocent in its effects on land, as almost every other plant, and is no longer ranked among the exhausting crops. Most of its friends are of opinion, that land will produce a crop every third year, by returning to it a crop of clover, with the use of one bushel of plaster paris, in each of the intervening years, and some gentlemen have informed me, that on a soil adapted to it, they have made very profitable crops, of a hoghead per acre, from worn out commons, by a single plastering, at that rate in autumn, when all the vegetable matter it afforded, was turned in, so that by an improving rotation, a whole estate may be converted into fields, for its cultivation, proportioned to the force to be applied. I have had no data, by which I could form an estimate of the other exportable productions of the county, and am, sir, your obedient servant,

WILLIAM HEBB.

MR. T. LAW, President of the Agricultural Society P. G. County.

Entomology.

Dr. Jos. E. Musk, to the Agricultural Society at Annapolis.

CAMBRIDGE, MD. MARCH 20, 1819.

"Hoc opus, hoc studium, parvi properemus et ampli."

DEAR SIR: I have long been impressed with the opinion, that no branch of science; perhaps, more deeply interests the practical farmer, than *Entomology*, and none is generally less regarded. The numerous class of insects that blast the most flattering prospects, are suffered yearly to repeat their ravages, without a serious effort to obviate the evil, and the vast varieties, so useful, are suffered to perish, from the want of knowledge to preserve them. To learn the natural history; to inquire into the habits of life; the characters, changes, and metamorphoses, of beings so important, are objects not so frivolous as they may appear to the ostentatious, but superficial observer; it is the only mode, rational or practicable, whereby the propagation of the one, and the destruction of the other, may be accomplished.

With these views, I have made repeated experiments in *Entomology*; and one of the first objects that attracted my attention, was the worm that inhabits the corn, usually called the grub-worm. I had seen a paper on this subject, by RICHARD PETERS, Esq.; in which he represents its parent state to be the "*scarabeus volvens*." This fact I doubted, as Mr. PETERS had not himself witnessed the experiment reported by him, though he believed the fact, and proposed a remedy founded upon it: I doubted it, because I had seen the *scarabeus volvens*, in so small a state, as to be almost invisible to the naked eye; upon which the reasoning occurred, that the product of a chrysalis so large, as must necessarily be that of a grub-worm, could not, by analogical inference, be as diminutive as the *scarabeus volvens* is frequently seen and known to be, and consequently, that Judge PETERS was deceived. To come at the fact, I carried into the field a large transparent bottle, which I half filled with earth; upon this earth I deposited about a dozen of the worms, which were then devouring the corn, and gave them corn blades to feed upon. In a few weeks, or less perhaps, they disappeared; I searched the earth, and found them chrysalids, enveloped in balls of earth. A considerable time after, I again examined them, and found several of them matured, and extricated from their envelope; others, a soft and white *pupa* with limbs more or less distinctly formed, in various states of progression, and exhibiting unequivocal proof of their origin, and of the impossibility of mistake or deception. These destructive animals belong to the order "*coleoptera*" of Linnæus, having *crustaceous elytra*, or wing cases, which shut together, and form a longitudinal suture down the back; they are about one quarter of an inch in length, of a shining jet black colour, very quick and active in their movements, and are seen in vast numbers under wheat stacks and in wheat yards.

The brief history of this insect is, that its *larva*, or caterpillar, having fed upon the young corn, descends into the earth about the depth of four inches, where it assumes its state of *chrysalis*, in which it continues until about the first of July,

when it becomes metamorphosed into the *imago*, or parent, which in autumn, deposits its *ova* in the fields, to undergo a similar series of transitions, which is effected by the heat of the ensuing season.

The obvious preventive, is fall or winter ploughing, at such a depth as will turn up and expose to the frost the *ova*, whereby they must perish.

To prove the efficacy of this method, in December, 1816, a field which I designed for corn, was ploughed four or five inches deep; the following season, my neighbours' corn fields, as well as those of the county generally, were assailed and nearly ruined by this destructive worm, when mine was almost wholly exempt from their annoyance.

Another insect, the "*curculio*," of which there are nearly one hundred species, belonging also to the *coleopterous* order, commands, from its universal ravages upon both the farmer and the fruiterer, the attention of every member of the community, who has it in his power to contribute, in the smallest measure, to the destruction of this ruthless foe to the wealth and luxury of man; which frustrates, by its concealed and wily movements, the most rational and well founded plans, executed by the most ardent and efficient energies of the human mind and body. Are we not inclined to exclaim, with the moral and philosophical SENECA, "*Natura quam te colimus inviti quoque*." How repugnant to the proud feelings of man, to stoop to combat with this insignificant animalcule! How resistless are the ordinances of nature, which compel us, by acts so humiliating, to admire and adore that complex creation, whereby the great Architect has seen fit to enforce them!

I have made experiments on the *larva* of several species of *curculiones*, and have found the parents so nearly similar in *habitat*, metamorphoses, and most other circumstances, that one description will suffice for their whole history; at least of those which I have examined; and the only mark of idiocracy in the tribes which I have observed, consists in their choice of a *nidus*: selecting, from their peculiarities in this respect alone, the cherry, the plum, or the grain of corn, as their instinctive or innate propensities might incline them.

In a transparent bottle containing some earth, I deposited several cherries, in which were the *larvæ* of the *curculio*, that infests that fruit; in a few weeks, or rather as soon as the pulp of the fruit was consumed, which was at different periods, they retreated into the earth, where upon examination some time after, I found they had assumed the state of *chrysalis*, which shortly resulted in that of the *imago* or parent; the wings of the insect were not sufficient to accomplish a flight, but merely to assist its ascent of the body of a tree; from which circumstances, I was led to the following reflections and experiments to test their correctness:

That the remedy must be such as would act, physically, to wit: To interrupt the metamorphoses, by preventing the descent of the *larvæ* into the earth; to expose to the weather, the *pupa*, after its descent; or to intercept in its ascent of the body of the tree, the parent insect; or, chemically; by substances, known to be generally deleterious to that class of animals.

The fruit being the *nidus* of the *ovum*, and the earth the *habitat*, in which it is brought to maturity and makes its abode, and the *larva*, from its soft and delicate structure, incapable of travelling, or sustaining exposure; when the fruit containing the *larva* has fallen and is rotted and consumed by the insect, the *larva* must descend, by the most correct route, from its original depository, the fruit, into the earth, its permanent abode, there to undergo the metamorphoses, which will bring it to maturity, and fit it for a new series of depredations, which is so secretly performed, that though myriads are employed, they are never detected in executing their work of destruction, the deposit of their *ova*. Hence I concluded, that one of the most effectual preventives, would be paving with brick, stone, shells, or some other hard substance, impervious to the soft *larva*, a circular space round the fruit tree, as extensive as the fall of the fruit, by which it would be interrupted in its descent into the earth, and consequently perish; or that it might be accomplished, by turning up the earth under the tree to the same extent, and thereby exposing to the inclemency of the weather, the tender *pupa*, of which two methods, the former is to be preferred; because thereby you arrest the passage of the *larva* to maturity, and necessarily destroy it. The latter method, if not performed in time, may allow the perfection of the *imago*, and in this state it is unquestionably more hardy and capable of providing another habitation, as secure and comfortable as that of its first election. And by the experiments which I have made, its descent and maturity are at uncertain and unequal periods, which would make an insuperable difficulty, in point of time, for performing the operation; if before the descent, it would necessarily be useless; if after the maturity, equally so, for reasons given.

This view of the subject, has led me, repeatedly, to both experiments, which I have fairly and impartially made, without the influence of any prejudice, which it might be presumed, my reasoning had connected with, or in favour of the former; the result was, the fruit with which I made the experiment that had been destroyed by *curculiones*, for many years, were in all cases, when I paved or shelled, entirely exempt; in two cases only, when the earth under the tree was turned up, at different seasons, the fruit escaped injured, but from the number that failed, I was inclined to ascribe these two to causes accidental and extrinsic.

The third method proposed, viz: to intercept the parent in its ascent of the body of the tree, by various obstacles which the mind will readily suggest, and thereby prevent its deposit of *ova*, though I have made no experiments upon it, I conceive to be rational, and easily accomplished; and with those species of *curculiones*, of which there are many, whose wings do not admit of flight, but assist them only in climbing, it would undoubtedly be effectual.

The fourth remedy which I propose, of a chemical nature, I have made but partial experiments to establish, such as are not yet satisfactory or conclusive; when finished, it will give me pleasure to report them, if the result be successful, by a fair and candid detail of facts.

I fear I have already trespassed on your patience, and will venture merely to notice the

parent of a singular *larva*, which some years ago, very generally, throughout the state, as you no doubt remember, threatened to exterminate the whole vegetable creation, as far as it travelled; in whole districts, not a solitary blade of wheat, oats, or rye, nor a remnant escaped its voracious appetite, and the grass was swept, in its march, as if by a scorching fire: so formidable were the destructive multitudes, that fosses, abatis, and parapets were constructed, to repel their advances, and the ditches were filled with their dead bodies. I deposited in bottles, with earth, several of these *larvæ*; they shortly went into *chrysalis*, and came out a fly of the *lepidopterous* order, precisely like the candle-fly, in all respects. This result, I report, because numerous as they were, and as much alarm as they occasioned, I have never seen a notice of a similar experiment; and it may, in case of a return of these hosts of enemies, afford a clue to their destruction. We at least, are not averse to know, something of an enemy, which has, and may again assail us with more disastrous ravages.

If, sir the present communication shall have the effect of inciting to inquiry, on these interesting subjects, the enterprising and intelligent farmer; if the plan of research, which I have ventured to suggest, shall afford him any assistance; if I have added one ray of light, whereby more may be obtained, my purpose is answered, and my most sanguine expectations fulfilled.

I have the honour to be,

sir, your obedient servant,

JOS. E. MUSE.

To the President of the Agricultural Society at Annapolis.

Maryland and Pennsylvania Farming, compared.

No. I.

For the AMERICAN FARMER.

To cultivate land to advantage, and at the same time to improve the soil, and thereby render estates more valuable, is certainly an object of the first magnitude to a farmer; hence many people suppose, that as it is the interest of farmers to do so, that they are all employed in this honourable and lucrative pursuit; whereas, but little observation and experience would be sufficient, to convince them that the reverse of that supposition is the fact; that the largest half of the lands, even within twenty miles of so good a market as Baltimore, are in but indifferent order, and very carelessly nay wretchedly cultivated, which deteriorates the soil, and the worse the soil gets, the more it and the improvements are neglected, until they are in ruins, and valuable farms become a burden to their proprietors, which circumstance has given a character to the Maryland lands, that they do not deserve, and in consequence of which, it is almost as difficult to sell a farm in the neighbourhood of Baltimore, for half its value, as it is to draw a prize in the lottery. For example, we find that lands naturally no better, in York and Lancaster counties in Pennsylvania, sell for five or six times the price that ours do, and notwithstanding they sell so much higher, they are much readier of sale than ours, and all vend their produce in the same market, which circumstance alone is sufficient to show that something must be wrong. The

writer of these remarks lodged lately with a farmer of the society of friends, from York county, Pennsylvania, who has bought a large farm ten miles from Baltimore; he informs him that he sold his land in York for \$100 per acre and bought where he now lives for \$20. I inquired of him what he considered to be the difference in natural fertility, between the lands in the vicinity of Baltimore, and York, and particularly as it regarded the farm he sold and the farm he bought. He answered me by observing, that on that subject he had the vanity to think he had some judgment, as farming had been his only employment through the course of a long life; and having lived long enough on his present residence to form an opinion, the result of his experience, on his judgment was, that the lands in the neighbourhood of Baltimore, were naturally as good, and that they were much easier improved, and fertilized than the lands in York; and as it regarded the farm he sold and the farm he bought, he gave a decided preference to the latter.—In the first place he thought the soil as good, as that he had sold, and much easier improved, and surer cropping land for wheat and clover, as they did not spew out with frosts in winter so much as they did in the flat lands in York; he further observed that when he farmed in York, he sold his surplus produce in Baltimore, after hauling it over an expensive road of sixty miles, but now he was situated within ten miles of the market's mouth, ready to take at a high price, every thing he had to spare, and to supply his wants with less labour and inconvenience than he could in York. He also informed me, that he bought the farm he now lives on of a gentleman in Baltimore, who had been farming it with an overseer and about twenty negroes, and that the proprietor was constantly at the expense of all kind of agricultural instruments, cloathing for his negroes, and many other expenses, among which no doubt, were the wages of the overseer, taxes, plaster, clover seed, and frequently a horse or two from the Baltimore market; but what is still worse, had to purchase food for his servants in the Baltimore market, nearly half the year.—And when the York farmer and his wife went to Baltimore to get a title to their farm, after the title ceremony was over, the wife of the Baltimore gentleman observed, in the language and manner of sincere charity, being in wealthy circumstances and of liberal disposition, that she was afraid that they, (the Quakers) would suffer on that poor farm, (knowing what disbursements her husband had to make for the support of it) and intreated them if such was likely to be the case, to let her know it, and she would certainly administer to their distresses. Suitable thanks were returned for her kind offers, but it alarmed the Quaker and caused him to keep correct accounts, to see how he was a going on, and the result was, that the first year, (which is always the worst with a farmer, having every thing to begin and arrange for future operations) he spared of produce, which he did not want, clear of all his expenses, between four and five hundred dollars worth and every year since considerably more, and this too without any advantage (or perhaps more properly disadvantage) of slave labour.—What a contrast! the Marylander ruining his lands and impairing his fortune to maintain slaves, and that too, perhaps, against their consent. The

Pennsylvanian comes, and without slaves, makes a fortune, on the same place, and at the same business that a Marylander spent one. Fearing that I shall trespass too much upon the limits of your useful paper, to the exclusion of more important matter, I shall reserve the conclusion of these remarks for a future number.

A YOUNG FARMER.

Hartford County, May 26th, 1819.

SOWING SMALL GRAIN.

The season approaches for preparing to sow *small grain*. This crop admits of but little cultivation, as it relates to the farmer, almost every thing depends on his manner of preparing his ground and sowing the seed—the rest must be left to an uncontrollable Providence. We take this occasion, therefore, to insert an article from the *Memoirs of the Agricultural Society of Virginia*, which in our opinion, is conclusive as to the expediency of *shallow seeding*, which our readers will recollect is also recommended in Judge PETER'S "NOTICES TO YOUNG FARMERS."

The observations of Mr. MERRIWETHER are clearly explained, and his arguments well supported by the annexed engraving.

From the Memoirs of the "Society of Virginia, for promoting Agriculture."

TO DR. JOHN ADAMS,

Secretary of the Agricultural Society of Virginia.

DEAR SIR—You will pardon the liberty I have taken in addressing you, or rather, the *Richmond Agricultural Society*, through you, of which respectable body I have not the honour of being a member; but believing that they will accept the intentions of one whose object is the promotion of the general welfare, though not one of their own body, I have undertaken to communicate a little information, which, I hope will not be unacceptable to them.

The HESSIAN FLY proving extremely destructive to the crops of wheat in Virginia last spring and summer, and much having been written in the public papers on that subject, without adding one solitary useful fact to our knowledge respecting them, except the one communicated by General Cocke, respecting the manner in which they deposit their eggs on the blades, and descend into the sheaths of the wheat; a fact for which we ought to be much obliged to him, and hope he will proceed in tracing their natural history, by a careful and minute attention to their progress through their different stages; till that is done. I am inclined to believe, that we shall not receive any really useful knowledge respecting the best means of counteracting or destroying their pernicious effects, though aided by the most splendid hypothetical speculations that human genius can invent. After having minutely traced their natural history, the next object that presents itself is, to ascertain the nature and manner of the growth of the vegetable on which we propose to counteract or prevent their injurious effects, viz. wheat. This becomes the more necessary, as there have been plans proposed of more injurious consequences, as I believe, than the Fly itself; particularly one published some time ago in the *Richmond Enquirer*, by a person signing himself "A King William Farmer," who recommends early and deep sowing—a remedy which I have often

seen totally destructive of the crop, the seed having rotted in the ground.

In order to elucidate the manner of the growing of wheat from the grain, till it branches considerably, I have enclosed a delineation with its explanation, on which it is necessary to make some remarks. viz.: If a grain of wheat is placed six inches beneath the surface, it will vegetate and throw out two leaves, which are generally called seminal leaves, and corresponding roots, (see the delineation, A, cc, and dd.) then a thread is thrown out, which, as soon as it reaches near enough to the surface so as to come in contact with atmospheric air, it there forms a knob or enlarged point, which is the part from whence a new set of branches and roots are thrown out, which, in the autumn is about an inch and a half or two inches below the surface, (as in the delineation marked D.) After this period, the seminal leaves, roots, and the thread denominated caudex, dies and becomes useless to the plant: above which, it has a new set of roots, branches, &c. On examining many roots of wheat, some had a knob between the seminal and coronal roots, as at B. appearing to be an effort of nature which proved abortive, being not near enough to the surface to obtain air. If the seeds placed any where between six inches and two from the surface, there will be a set of coronal and seminal roots and branches; but if the seed is placed any where between the surface, and two inches below, there will be only one set of roots and branches, and those immediately progressing in their different directions from the seed. I have said the stem or thread arises from the seminal roots to within two inches of the surface, in the autumn; but this depends on the dryness and porosity of the soil at the time of vegetating; for, after the soil has settled by rains and according to the tenacity and specific gravity of the soil, also its moisture, which increases the specific gravity, and prevents the access of atmospheric air, so will it be found nearer the surface; so that in the spring of the year, if any branching takes place at a late period, it will be found to be entirely on the surface.

From the above statement of facts I draw this inference; that if a grain of wheat is deposited upwards of two inches below the surface, that it has an extraordinary effort of nature to make, to come up to that point beneath the surface where it has access to atmospheric air; and is proportionably great according to the depth, quality of the soil, moisture, &c. which must occupy a proportionable length of time, and consequently is equal to having been sown so much later, if put in its proper depth; and this I take to be the secret of the *King William Farmer's* deep and early seeding, as he particularly mentions a mother root, which I take to be the seminal root, (as at A in the delineation:) which is an evidence of the grain being deposited deeper than nature intended it should, for it is not to be found in wheat unless deposited upwards of two inches beneath the surface. He having mentioned the mother root, ought to have told us somewhat about where the daughters were to be found; for it is upon them that the *Hessian Fly* commits its ravages; and I fancy they will always be found less than within two inches of the surface, the depth which he admits the fly to penetrate. He admits also, that all the seminal leaves were dead, a pretty good proof that the roots were so also.

The next inference I make is, that the branching of wheat being within that distance, to which the *Hessian Fly* is known to penetrate, and that its branches become shallower and shallower according to the lateness of its branching, that deep seeding is no preventive against the ravages of the fly.

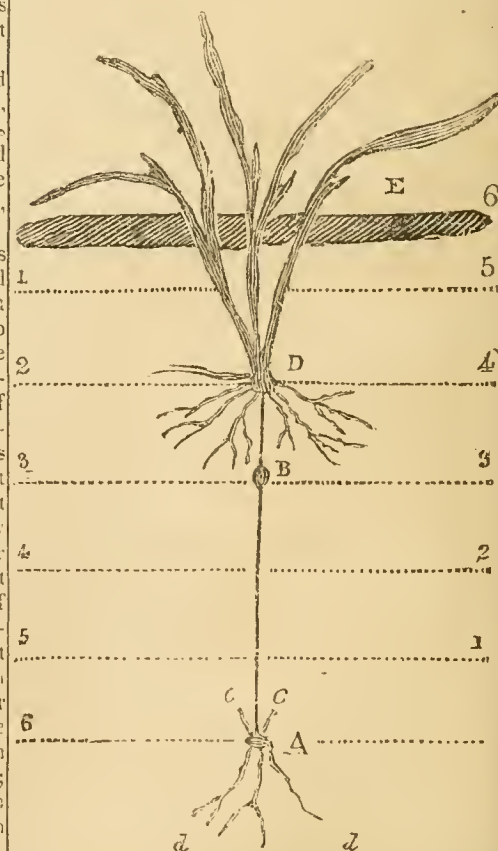
The last inference, and not the least, is that where the seed is deposited deep, and out of the influence of atmospheric air, that should the season be moist or wet at the time of seeding, the specific gravity of the soil being increased, and its pores closed with moisture before the vegetation has reached the branching point, the seed will rot in the ground, and either partially or totally destroy, or rather prevent a crop being made. This happened to several of my friends this last fall, and is a circumstance that I have seen often happen, notwithstanding the strong disposition farmers have discovered of late years for deep seeding. To conclude, from a consideration of the above facts, and thirty years experience, I am of opinion, that the best depth for seeding wheat is, from one to two inches.

Thus I have endeavoured to communicate my ideas respecting the growth and depth of seeding the wheat crop, and as connected with the *Hessian Fly*; should it prove acceptable to the society, I shall be amply rewarded for the trouble I have taken—and with my best wishes for the welfare of their undertaking,

I subscribe myself their friend,

WILLIAM MERRIWETHER.

A delineation of the growth of wheat from the grain till it branches.



A The grain of wheat deposited six inches beneath the surface of the earth, where it sprouts

and throws out roots and two leaves which are called its seminal leaves and roots, and a central thread denominated caudex.

B A bulb formed on the caudex, being an effort of nature to form branches and roots at that place; but being too far out of the influence of the air, goes on to within two inches of the surface.

D The coronal roots and branches, formed two inches below the surface, having now reached within the influence of atmospheric air.

cc The two seminal or first leaves, dead when the wheat has branched on the surface, and are hardly discernable without the aid of a magnifying lens.

dd The seminal roots also dead after the coronal roots appear, and then are no longer useful to the plant.

E. The surface of the ground.

1, 2, 3, 4, 5, 6. Dotted lines, marking the number of inches beneath the surface at E.

From the *Practical American Gardener*, published by Fielding Lucas, jun.

For the Month of August.

Savoy, Brocoli, and Borecole.

In the first week of this month, finish planting Savoy at the distance of two feet. With a little care, they may be preserved through the winter.

The early York Battersea, and sugar-loaf plants the seeds of which were sown last month, may now be planted out, and some more of the seed sown the first week in this month, for heads late in October. In the southern states, where the plants may remain out all winter, this will be useful. Plant now your last crop of Borecole, also the Brocoli from the nursery beds.

Radishes.

In the early part of the month, sow a sufficient crop of short-top, purple, and salmon radishes, also some of the white Naples, and white and red turnip-rooted sorts. In the middle or latter end of the month, sow a second crop.

Some of the white and black Spanish kinds, or winter radishes, may be sown at either of the above periods.

Sowing and transplanting Lettuces.

The kinds proper to be sown, early in this month for fall use, are the brown Dutch, grand admiral, large royal, imperial, white cos, Mogul, and New Zealand lettuces; sow them as directed in former months. In the last week of this month, sow some of the brown Dutch, hardy green cabbage lettuce, and grand admiral, to transplant in October, into frames of warm borders, for winter and spring use.

Transplant lettuces from your seed beds; give them a plentiful watering, as you plant them, and repeat it as often as necessary.

Small Sallading.

Where small sallading is required, it may still be sown, and watered, as before directed.

Endive.

Transplant according to directions, such endive, as is of a suitable size, water it immediately, and repeat it, until the plants begin to grow freely. They must be planted in an open place, free from shade.

Select the large, full hearted plants of endive when the leaves are very dry, otherwise they will rot; tie them together, not too tight, about the

middle, with shreds of Russian mats, previously gathering all the leaves regularly.

Angelica, Fennel, and Carduus and Benedictus.

Sow these seeds this month; they will produce stronger plants than if sown in spring, and be fit to transplant early the next year.

Cardoons and Finchio.

Cardoons that have been planted out, must be treated, as directed.

Earth up Finchio, which is full grown, in order to blanch it.

Corn Sallad.

In the middle states, this should be sown in the last week of this month, for winter and spring use; it should have a dry soil and open situation, and carefully raked in; the plants will soon appear above ground, when they are to be thinned, from 2 to 3 inches asunder.

Melons and Cucumbers.

In dry weather, water your melon and cucumber vines three or four times a week; gather the fruit, as it becomes fit for use, and keep the plants perfectly free from weeds.

Winter Cresses.

The winter cress is sown and treated, as the corn sallad; it is commonly called scurvy grass, to which it is by no means allied. If sown in the last week of this month, or first in September, in a dry soil and warm situation, will afford an early salled in spring.

THE FARMER.

BALTIMORE, FRIDAY, JULY 16, 1819.

It is said, potatoes may be kept good the whole year, by dipping them in hot water, as the Scots preserve eggs, by killing the living principle; and as the germ is so near the skin, it would not hurt the potatoe. One or two minutes, at most would be sufficient, in an open worked basket, a ton might be cured in an hour or two.—This would be useful in providing ship stores; the trial is easily made.

Thousands of foolish receipts are published and copied, which are found, on trial, to be fallacious.—Such was the one we lately copied about killing house flies with milk and pepper. It is presumed the author funnelled them, as they will not eat it without.—We shall endeavour to avoid giving currency to worthless nostrums.

SKIPPERS IN BACON—give much trouble to housewives in the country.—It has been discovered by a female correspondent in the country, from whom we have received several useful communications, that skippers in Bacon may be effectually and speedily destroyed by the use of elder juice, but the exact manner of preparing and applying it, are not described. This ought always to be done in giving receipts—the field is yet open for numberless useful discoveries in all the departments of rural and domestic economy. Since writing the above, we have the following more particular account from our esteemed correspondent:

"Last year we lost at least one third of our ham meat, by the skippers, notwithstanding every attention, but never destroyed the skippers while the meat lasted. Our neighbours were, in this respect, as unfortunate as ourselves.

This spring, knowing that our meat had been well smoked, and the weather being dry, we neglected airing it as is customary, until our old enemy the skipper, returned, and had eaten it smartly. Sister, who attends to it had it examined, scraped and sunned; (no one can be more particular.) In a week after, she had it examined and found that there were in it nearly as many skippers as at first; you

may suppose, after the loss we suffered last year, we were very anxious to destroy this troublesome insect. I had known for many years, that elder juice would destroy maggots. If a hog, sheep, or any other animal gets wounded, and the flies get to the wound, they will create maggots; by washing the wound with elder juice, they will roll out by hundreds, if there be so many in it. I proposed therefore to try it on our bacon. The leaves were accordingly beat in a mortar, adding a little water; the flesh side of the meat was rubbed with the leaves thus bruised, and where small holes appeared, the juice was poured in. In three weeks after, the meat was re-examined, and the skippers utterly destroyed. The application here described, does not in the least degree communicate any bad taste to the meat. I have little doubt, that this, with many other simple applications within the reach of every housekeeper, might be applied to many other useful purposes if proper pains were taken to make the trial. If such homely communications, on such homely subjects, are admissible in the *American Farmer*, you can publish what I have written, as you know you can depend on its accuracy, and I shall be amply paid for my trouble by what I know I shall receive, the thanks of many.

A HOUSEKEEPER.

THE DROUGHT—is said to exceed any ever recollected in this neighbourhood—fortunately wheat and rye had made too much progress during the favourable weather in the early part of the year, to be materially injured—but the crop of oats is destroyed, and hay very greatly diminished in weight—pastures are literally burnt up, on many fine lots—not a sprig of living grass is to be seen; all the productions of the garden which come now in season, have been destroyed or greatly injured and diminished. Last Sunday, which was intensely hot, gave promise of a fine rain, but we were favoured with enough only to lay the dust and cool the air, momentarily.

TOBACCO—The season has been unusually adverse to the cultivators of tobacco—February and March were very unpropitious to the sowing and sprouting of seed; and since plants were large enough to put out, no seasons have offered, and the plants have been burnt up in the beds; inquiry ought not beds to be located, when practicable, near a stream of water, with a view to watering the beds, for which some machine or utensil, might be made less tedious than the common watering pot—though even with that, we would suppose, that one man would water a large bed of plants in a few hours, but this should always be done late in the evening or very early in the morning; the former perhaps would be better.

RUTA BAGA—The summer has been unfavourable to a fair experiment of the *Ruta Baga*, on account of the unprecedented drought—seeds planted in June would, we should fear, perish for want of rain to make them vegetate.—It is useless to sow the seed in the present state of the ground. The time recommended by Mr. Cobbett, for Long Island, is the 25th June, with which, we should think from the 10th to the 15th July would correspond in Maryland, and south of it—but we should not hesitate to take advantage of a season, any time before the first of August, or even the first week in that month. We once knew a good crop of common turnips from a sowing on the 10th of September.

WORKING OXEN—When oxen refuse to work equally well on either side, or when they pull off against each other, yoke them on the side you wish them to work and turn them out to feed in that way; they soon become accustomed to it, and work afterwards on either side alike.

THE PROFITS OF LIVE STOCK—We are well convinced that this subject, deserves the serious consideration of a great portion of land holders who now employ their care, and their capital, on objects much less profitable, and far more laborious, than

that of raising, or fattening live stock for the Baltimore, Washington, and other markets.—Not a week passes, that the Editor of this paper, does not buy both veal, and fresh beef, for his table; and he does not recollect that since the war, he has ever paid for either, less than twelve and a half cents per pound. For veal cutlets this morning, he had to give *fourteen cents per pound*. Now he holds it to be impossible, that meats could maintain such prices, if the hundreds and thousands of acres of waste land in Maryland—and, especially as he knows, in the lower counties of it—were judiciously appropriated to the cultivation of *artificial grasses*, which, be it remembered, after all, must constitute the basis of a *live stock* country.

Within the last week, a very respectable, and wealthy victualler of this city, bought of a gentleman near Charleston, Virginia, fourteen bullocks, for which he gave him, 8 1-2 cents per pound—that is, for the butcher's meat. They averaged about 750 pounds each; so that the grazier may be supposed to have got at least sixty dollars a head, and, for the fourteen, not less than \$850. The butcher, we have no doubt, cleared \$20 a head, so that he cleared on the fourteen, at least \$280—two of these beeves yielded upwards of four hundred pounds of rough fat, which sells now at 9 cts per lb.

It is a curious fact, that while our beef market is supplied from a distance of *many hundred miles, north and west* of the city, above the great mail road, Farmers in Calvert, Charles, St. Mary's, Prince George's and all the lower counties of the Eastern Shore, look upon the proposition to raise live stock, for the Baltimore market, as an enterprise, little less bold, and difficult of execution, than did LEWIS and CLARKE, when they first contemplated an untrodden journey across the rocky mountains, to the Pacific Ocean; yet where is there a district better adapted to the raising of live stock, than the counties we have mentioned? Where is the use of their thousands of acres of fine marshes, and their *large farms* universally adapted, especially on the Western Shore, to the kind and easy, and abundant growth of potatoes, and turnips, and red clover, lucerne and timothy for winter and summer food?

The whole United States, perhaps, does not contain a district so well adapted to supply our market with fine mutton, as that range of country, from Herring Bay, to the Mouth of Patuxent.—Its lofty cliffs and steep hills, and its peculiarly early, and abundant production of grass, offer to the sheep, that which is so congenial, and grateful to its character—a dry bed and a good pasture—yet, how many are brought here, from there, in the course of the year?—Perhaps *not one*—How much veal?—Not a pound—How much beef?—Not a single pound—yet a Steam Boat passes, *almost within hail of every farm in the county, once a week*—what an enterprising people! They would seem to dream away their lives, and, under the impression, that this world was made to produce nothing but tobacco, corn, wheat, rye, oats, and pine wood!!!—They often remind us of the boy, who riding to mill, in one of the lower counties of Maryland, with his corn in one end, and a large stone in the other end of his bag, to balance it, was persuaded by a passing stranger, to throw out the stone, and divide the corn equally in each end of the bag.—On returning home, he told his father of this novel, and as it seemed to him useful, expedient to get rid of the old stone, which had grown smooth in its services to the family. The father however far from being satisfied, shook his head sagely, moralized on the apt tendency of youth, to innovate on old family customs, and sent him back to bring the good old stone, which had been the mill road companion of "his father, and his grandfather." There are, if we mistake not, many customs in rural management, that might be compared, without exaggeration, to the mill-boy, and the balance stone.

For instance—compare the expense of digging a well near the house, and convenient to the farm-yard, which should supersede the necessity of driving the stock to water—with the labour and loss of time, and consequent expense, of sending small pails

quarter of a mile for every drop of water the family uses, and driving the stock there for water; losing all their manure on the way—and most generally, not driving them back at all—and this continued from one generation, and one century after another!!—But we are wandering from the subject—when the kindness of correspondents, shall fail to furnish us with matter, more useful than any thing we could suggest, we shall take up the subject of *artificial grasses*, as being the foundation of every good system of husbandry, and indispensable to the improvement of land—we shall treat of their various kinds, their culture, quality, &c &c.

Superior Beef.—We are informed, that the Messrs. Cassidy's purchased last week, for a sum amounting to nearly \$600 four of the finest fatted oxen ever brought to this market. They were exhibited in the streets on Saturday last, and pronounced by competent judges to be superior to any thing they had ever before seen. The beef may be viewed this morning, at the stall of the above-named gentleman, in the Fly Market, where it will be offered for sale. Two of these fine cattle were fatted by Thomas Hoga, Esq. of Chatham, Columbia county, and two by Mr. Derum, of Rensselaer county.—*Albany pap.*

In this paper, we have concluded the publication of the proceedings of the *Agricultural Society of Prince George's County*, and who of our readers is not delighted, at the high promise of improvement, which must result from so much practical activity, and such a spirit of investigation and research? Though the proceedings do not mention it, we believe, T. LAW, Esq. a gentleman, whose acquirements are co-extensive with his extraordinary opportunities of observation, in various quarters of the world, is the President of the Society. His address was published in No. 15. That of the Vice President Mr. Daingerfield, will be found in this number; and demands attention, both on account of some novel theories which it contains, and the practical results established by actual and careful experiment. The communication from that eminent and exemplary Farmer, T. S. LEE, Esq. of Frederick, has called to our mind a very important essay of Gov. Nicholas, of Virginia, on the practicability and advantage of removing the corn, stalks and all, from the field, prior to sowing it in wheat. If we can lay our hands on it, it shall appear in our next paper, as we deem it especially worthy of public attention. We can no longer defer suggesting to the several Societies, in the different counties, the expediency of memorialising the next Legislature, for a donation, to be distributed in premiums, for superior agricultural productions, and systems of management. We have not time or room, now to dwell upon the subject, nor does it, we should think, require it.

In some of the eastern states, the Legislatures have given small sums to Societies, on condition that the Societies themselves would raise a like sum.—In N. Y. \$20,000 has been appropriated, and what better use could be made of the State treasure, than by distributing it in a manner which would have a direct and powerful tendency to enlighten, and give encouragement to that calling, on whose skill and labour the prosperity of Society so mainly depend. We shall enlarge on this topic hereafter.

WINDSOR, (Vt.) June 21.

Extraordinary Cow.—There was taken from a cow belonging to Gen. Forbes, of this town, on the evening of the 4th inst. at one milking, 22 quarts and nearly a half pint of milk, notwithstanding her calf, which was healthy, had been with her during the day.

Staple, of North Carolina.—The very liberal patronage this paper has received in North Carolina, makes it incumbent upon us to state more particularly, hereafter, the prices of the staple commodities of that State.

The Persian Ambassador being present at a debate in the Chamber of Deputies, in Paris, a gentleman observed, that "the progress of Persia, was behind the light of the age." The Ambassador replied—"My master is cousin german to the Sun, and uncle to the Moon! and is content with the light of his family."

POETRY.

ODE TO THE POPPY.

BY MRS. O'NEIL.

Not for the promise of the labour'd field,
Not for the gold the yellow harvests yield,
I bend at Ceres shrine;
For dull to humid eyes appear
The golden glories of the year;
Alas! a melancholy worship's mine!
I hail the goddess for her scarlet flower.

Thou brilliant weed
That does so far exceed
The richest gift gay Flora can bestow;
Heedless I pass'd thee in life's morning hour
(Thou comforter of woe)

Till sorrow taught me to confess thy power.
In early days when Fancy cheats,
A various wreath I wove
Of laughing Spring's luxuriant sweets,

To deck ungrateful Love;
The rose or thorn my numbers crown'd,
As Venus smil'd, or Venus frown'd,
But Love and Joy, and all their train are flown,
And I will sing of thee alone;
Unless perchance the attributes of grief,
The cypress bud and willow leaf,
Their pale funereal foliage blend with mine.

Hail, lovely blossom! thou can'st ease.
The wretched victims of disease;
Can'st close those weary eyes in gentle sleep,
Which never open but to weep,
For, oh! thy potent charm
Can agonizing pain disarm;
Expel imperious Memory from her seat,
And bid the throbbing heart forget to beat.
Soul-soothing plant! that can'st such blessings give
By thee the mourner bears to live,
By thee the wretched die!
Oh! ever friendly to despair,
Might Sorrow's pallid votary dare,
Without a crime that remedy implore
Which bids the spirit from its bondage fly,
I'd court thy palliative aid no more!
No more I'd sue that thou should'st spread
Thy spell around my aching head,
But would conjure thee to impart
Thy balsam for a broken heart
And by thy soft Lethæan pow'r
(Inestimable flow'r)

Burst these terrestrial bonds, and other regions try.

Current Prices of Country Produce—ascertained by actual sales—within the last week.

Wheat, red, new crop, \$1 20; a sale has been made at \$1 23—little in market. Corn, per cargo, 52 cents—retailing at 56. Rye, 65 cents.—Oats, 45 cents. Liverpool blown Salt, retail, 75 cents. Flour, superfine, from the wagons, \$6 25; store price, \$6 50. Bacon, the hog round, 12 1-2 cents. Butcher's beef, best pieces, 10 to 12 1-2 cents. Chickens, per doz. 25 to \$3. Veal, 10 to 12 cents. Mutton, 6 to 8. Salt Beef, prime pieces, 7 to 12. Pork, 8 to 10. Eggs, per doz. 20 to 25 cents. Potatoes, new crop, per peck, 25 to 37 1-2 cents. Herriogs, per barrel, No. 1, 2 75 to \$2 87 1-2.—Do. No. 2, 2 25 to \$2 62 1-2. Tar, per bbl. by the cargo, \$1 60. Rozin, \$2.—Pitch, \$2 75. Turpentine, \$2 50. Susquehanna Pork, per bbl 14 to \$15. Boston Beef, No. 2, \$11 retail. Whiskey, from the wagons, 40 cents per gal. Plaster, in the stone, per cargo, 4 50 to \$4 87 1-2.—Do. ground, per bushel, 40 to 45 cents. Hay, timothy, new crop, \$20 per ton.—Straw, \$14. Tobacco, no change.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I.

BAITIMORE, FRIDAY, JULY 23, 1819.

NUM 17.

INTERESTING.

THE WIFE.

The treasures of the deep are not so precious
As are the concealed comforts of man
Lock'd up in woman's love. I scent the air
Of blessings, when I come but near the house.
What a delicious breath marriage sends forth—
The violet bed's not sweeter. MIDDLETON

I have often had occasion to remark the fortitude with which women sustain the most overwhelming reverses of fortune. Those disasters which break down the spirit of man, and prostrate him in the dust, seem to call forth all the energies of the softer sex, and give such intrepidity and elevation to their character, that at times it approaches to sublimity. Nothing can be more touching than to behold a soft and tender female, who had been all weakness and dependence, and alive to every trivial roughness while treading the prosperous paths of life, suddenly rising in mental force, to be the comforter and supporter of her husband, under misfortune, and abiding with unshrinking firmness, the bitterest blasts of adversity.

As the vine which has long twined its graceful foliage around the oak, and been lifted by it into sunshine, will when the hardy plant is rifted by the thunderbolt, cling round it with its caressing tendrils, and bind up its shattered boughs; so is it beautifully ordered by Providence, that woman, who is the mere dependant and ornament of man in his happier hours, should be his stay and solace when smitten with sudden calamity, winding herself into the rugged recesses of his nature, tenderly supporting the drooping head, and binding up the broken heart.

I was once congratulating a friend, who had around him a blooming family, knit together in the strongest affection. "I can wish you no better lot," said he, with enthusiasm, "than to have a wife and children—if you are prosperous, there they are, to share your prosperity; if otherwise, there they are to comfort you." And, indeed, I have observed that married men falling into misfortune, are more apt to retrieve their situation in the world than single men; partly because they are more stimulated to exertion by the necessities of the helpless and beloved beings who depend upon them for subsistence; but chiefly because their spirits are soothed and relieved by domestic endearments, and their self respect kept alive by finding, that though all abroad is darkness and humiliation, yet there is still a little world of love, of which they are monarchs. Where a single man is apt to run to waste and self neglect; to fancy himself lonely and abandoned, and his heart to fail to ruin like some deserted mansion, for want of an inhabitant.

These observations call to mind a little domestic story, of which I was once a witness. My intimate friend, Leslie, had married a beautiful and accomplished girl, who had been brought up

in the midst of fashionable life. She had, it is true, no fortune, but that of my friend was ample; and he delighted in the anticipation of indulging her in every elegant pursuit, and administering to those delicate tastes and fancies, that spread a kind of witchery about the sex—"Her life," said he, "shall be like a fairy tale."

The very difference in their characters produced a harmonious combination: he was of a romantic, and somewhat, serious, cast; she was all life and gladness. I have often noticed the mute rapture with which he would gaze upon her in company, of which her sprightly powers made her the delight; and how, in the midst of applause, her eye would still turn to him, as if there alone she sought favour and acceptance.—

When leaning on his arm, her slender form contrasted finely with his tall, manly person. The fond confiding air with which she looked up to him, seemed to call forth a flush of triumphant pride and cherishing tenderness, as if he doated on his lovely burthen for its very helplessness.—Never did a couple set forward on the flowery path of early and well-suited marriage with a fairer prospect of felicity.

It was the mishap of my friend, however, to have embarked his fortune in large speculations; and he had not been married many months, when, by a succession of sudden disasters, it was swept from him, and he found himself reduced almost to penury. For a time he kept his situation to himself, and went about with a haggard countenance, and a breaking heart. His life was but a protracted agony; and what rendered it more insupportable, was the necessity of keeping up a smile in the presence of his wife, for he could not bring himself to overwhelm her with the news.

She saw, however, with the quick eyes of affection, that all was not well with him. She marked his altered looks and stifled sighs, and was not to be deceived by his sickly and rapid attempts at cheerfulness. She tasked all her sprightly powers and tender blandishments to win him back to happiness; but she only drove the arrow deeper into his soul. The more he saw cause to love her, the more torturing was the thought that he was soon to make her wretched. A little while, thought he, and the smile will vanish from that cheek—the song will die away from those lips—the lustre of those eyes will be quenched with sorrow; and the happy heart which now beats lightly in that bosom, will be weighed down, like mine, by the cares and miseries of the world.

At length he came to me one day, and related his whole situation in the tone of the deepest despair. When I had heard him through, I inquired, "does your wife know all this?"—At the question he burst into an agony of tears.—"For God's sake," cried he, "if you have any pity on me, do not mention my wife; it is the thought of her that drives me almost to madness?"

"And why not?" said I. "She must know it sooner or later: you cannot keep it long from her, and the intelligence may break upon her in a more startling manner, than if imparted by yourself; for the accents of these we love soften the harshest tidings. Besides you are depriving yourself of the comforts of her sympathy, and not merely that, but also endangering the only bond that can keep hearts together—an unreserved community of thought and feeling. She will soon perceive that something is secretly preying upon your mind; and true love will not brook reserve, but feels undervalued and outraged, when even the sorrows of those it loves are concealed from it."

"Oh! but, my friend! to think what a blow I am to give to all her future prospects—how I am to strike her very soul to the earth, by telling her that her husband is a beggar that she is to forego all the elegancies of life—all the pleasures of society—to sink with me into indigence and obscurity! To tell her that I have dragged her down from the sphere in which she might have continued to move in constant brightness—the light of every eye—the admiration of every heart!—How can she bear poverty? she has been brought up in all the refinements of opulence. How can she bear neglect? she has been the idol of society. Oh, it will break her heart, it will break her heart!"

I saw his grief was eloquent, and I let it have its flow, for sorrow relieves itself by words.—When his paroxysm had subsided, and he had relapsed into moody silence. I resumed the subject gently and urged him to break his situation at once to his wife. He shook his head mournfully, but positively.

"But how are you to keep it from her? It is necessary she should know it, that you may take the steps proper to the alteration of your circumstances. You must change your stile of living—nay," observing a pang to pass across his countenance, "do not let that afflict you. I am sure you have never placed your happiness in outward show—you have yet friends, warm friends, who will not think the worse of you for being less splendidly lodged; and surely it does not require a palace to be happy with Mary."

"I could be happy with her," cried he convulsively, "in a hovel!—I could go down with her into poverty and the dust!—I could—I could—God bless her! God bless her!" cried he, bursting into a transport of grief and tenderness.

"And believe me, my friend," said I, stepping up, and grasping him warmly by the hand, "believe me, she can be the same with you. Aye more: it will be a source of pride and triumph to her—it will call forth all the latent energies and fervent sympathies of her nature, for she will rejoice to prove that she loves you for yourself. There is in every true woman's heart a spark of heavenly fire, which lies dormant in the broad day light of prosperity; but which kindles up, and beams and blazes in the dark hour of adver-

sity. No man knows what the wife of his bosom is—no man knows what a ministering angel she is—until he has gone with her through the fiery trials of this world.'

There was something in the earnestness of manner, and the figurative style of my language, that caught the excited imagination of Leslie. I knew the auditor I had to deal with; and following up the impression I had made, I finished by persuading him to go home and unburden his sad heart to his wife.

I must confess, notwithstanding all I had said, I felt some solicitude for the result. Who can calculate on the lotitude of one whose life has been a round of pleasures? Her gay spirits might revolt at the dark, downward path of low humility, suddenly pointed out before her, and might cling to the sunny regions in which they had hitherto revelled. Besides, ruin in fashionable life is accompanied by so many galling mortifications, to which in other ranks, it is a stranger. In short, I could not meet Leslie, the next morning, without trepidation. He had made the disclosure.

'And how did she bear it?'

'Like an angel! It seemed rather to be a relief to her mind, for she threw her arms around my neck, and asked if this was all that had lately made me unhappy—but, poor girl,' added he, 'she cannot realize the change we must undergo. She has no idea of poverty but in the abstract: she has only read of it in poetry, where it is allied to love. She feels as yet no privation: she experiences no want of accustomed conveniences or elegancies. When we come particularly to experience its sordid cares, its paltry wants, its petty humiliations—then will be the real trial.'

'But,' said I, 'now that you have got over the severest task, that of breaking it to her, the sooner you let the world into the secret the better. The disclosure may be mortifying; but then it is a single misery, and soon over, whereas you otherwise suffer it, in anticipation, every hour in the day. It is not poverty, so much as pretence, that harasses a ruined man—the struggle between a proud mind and an empty purse—the keeping up a hollow show that must soon come to an end. Have the courage to appear poor, and you disarm poverty of its sharpest sting.' On this point I found Leslie perfectly prepared. He had no false pride himself, and as to his wife, she was only anxious to conform to their altered fortunes.

Some days afterwards he called upon me in the evening. He had disposed of his dwelling house, and taken a small cottage in the country, a few miles from town. He had been busied all day in sending out furniture. The new establishment required few articles, and those of the simplest kind. All the splendid furniture of his late residence had been sold, excepting his wife's harp. That, he said, was too closely associated with the idea of herself; it belonged to the little story of their loves; for some of the sweetest moments of their courtship were those when he had leaned over that instrument listening to the melting tones of her voice. I could not but smile at this instance of romantic gallantry in a doating husband.

He was now going out to the cottage, where his wife had been all day, superintending its arrangement. My feeling had become strongly

interested in the progress of his family story, and as it was evening, I offered to accompany him.

He was wearied with the fatigues of the day, and as we walked out, fell into a fit of gloomy musing.

'Poor Mary!' at length broke, with a heavy sigh, from his lips.

'And what of her,' asked I, 'has any thing happened to her?'

'What,' said he, darting an impatient glance, 'is it nothing to be reduced to this paltry situation—to be caged in a miserable cottage—to be obliged to toil almost in the menial concerns of her wretched habitation?'

'Has she then repined at the change?'

'Repined! she has been nothing but sweetness and good humour. Indeed, she seems in better spirits than I have ever known her; she has been to me all love, and tenderness, and comfort!'

'Admirable girl!' exclaimed I. 'You call yourself poor, my friend; you never were so rich—you never knew the boundless treasures of excellence you possessed in that woman.'

'Oh, but my friend, if this first meeting at the cottage, were over, I think I could then be comfortable. But this is her first day of real experience: she has been introduced into an humble dwelling—she has been employed all day arranging its miserable equipments—she has for the first time known the fatigues of domestic employment—she has for the first time looked around her on a home destitute of every thing elegant, and almost convenient; and may now be sitting down, exhausted and spiritless, brooding over a prospect of future poverty.'

There was a degree of probability in this picture that I could not gainsay, so we walked on in silence.

After turning from the main road, up a narrow lane, so thickly shaded by forest trees, as to give it a complete air of seclusion, we came in sight of the cottage. It was humble enough in its appearance for the most pastoral poet; and yet it had a pleasing rural look. A wild vine had overrun one end with a profusion of foliage; a few trees threw their branches gracefully over it; and I observed several pots of flowers tastefully disposed about the door, and on the grass plot in front. A small wicket gate opened upon a footpath that wound through some shrubbery to the door. Just as we approached, we heard the sound of music—Leslie grasped my arm; we paused and listened. It was Mary's voice, in a style of the most touching simplicity, singing a little air of which her husband was peculiarly fond.

I felt Leslie's hand tremble on my arm. He stepped forward, to hear more distinctly. His next made a noise on the gravel walk. A bright beautiful face glanced out of the window, and vanished—a light footstep was heard—and Mary came tripping forth to meet us. She was in a pretty rural dress of white; a few wild flowers were twisted in her fine hair; a fresh bloom was on her cheek; her whole countenance beamed with smiles—I had never seen her look so lovely.

'My dear George,' cried she, 'I am so glad you are come; I've been watching and watching for you, and running down the lane, and looking out for you. I've set out a table under a beautiful tree behind the cottage; and I have been gathering some of the most delicious strawberry-

ries, for I know you are fond of them—and we have such excellent cream—and every thing is so sweet and still here—Oh!' said she, putting her arm within his, and looking up brightly in his face, 'Oh, we shall be so snug!'

Poor Leslie was overcome.—He caught her to his bosom—he folded his arms around her—he kissed her again and again—he could not speak, but the tears gushed into his eyes. And he has often assured me, that though the world has since gone prosperously with him, and his life has been a happy one, yet never has he experienced a moment of such unutterable felicity.

AGRICULTURE.

From the Memoirs of the Agricultural Society of Virginia.

ON INDIAN CORN.

A paper presented by Wilson C. Nicholas, Vice-President.

Many experienced farmers (and among others the highly distinguished president of the Agricultural Society of Pennsylvania) are of opinion, that wheat ought not to be sown upon cornland. I presume this opinion was formed when the practice was to sow upon our corn fields when they were hard and foul, with the corn standing, and with a slight ploughing with a single horse plough. In any rotation of crops, if the corn land is manured and the corn taken off so as to admit of the land being well ploughed, and seeded in good time, I consider it good husbandry. Corn is not so mild or meliorating a fallow crop as some others; but it is of so much value as to justify its culture in this way, even if more indulgence is given to the land in other parts of the course. Mr. Arthur Young, who was less acquainted with the nature of corn than we are, speaks of it as an excellent fallow crop. I beg leave to state to the society, the opinion of that gentleman in his own words; when speaking of the agriculture of France he says, "when I give the course of the French crops, it will be found, that the only good husbandry in the kingdom, (some small and very rich districts excepted) arises from the possession and management of this plant (corn.) Where there is no maize, there are fallows; and where there are fallows the people starve for want. For the inhabitants of a country to live upon a plant, which is a preparation for wheat, and at the same time to keep their cattle lat upon the leaves of it, is to possess a treasure, for which they are indebted to their climate." In another part of his work, Mr. Young says, "whatever merit is found in French agriculture, depends on one of those two points, either upon extraordinary fertility of soil, as in the case of Flanders, Alsace, and the Garonne, or on the culture of a plant particularly adapted to the southern or middle climates of the kingdom; that is maize;" which plant he says is never found on hard or even ordinary soils, I have before given it as my opinion that the quantity of land that should be planted in corn ought to be confined to what a farmer can manure on rich bottoms. Upon such land if it can be seeded in good order and in good time, I believe, with Mr. Young, corn will be found a good fallow crop. This I understand to be the opinion

of the president of this society, whose authority is entitled to the highest respect. Upon a Virginia farm with the force usually employed, I hazard nothing in saying, that more land can be sown in wheat than can be cultivated in corn, as the preparation for wheat is chiefly made after the culture of corn is over. My opinion therefore is, that our wheat crops in the wheat counties, must be made both upon corn land and clover fallows.* Whether it is proper or not to sow wheat upon corn land, so great a proportion of the people of Virginia, rely upon that sort of land for their crops of wheat, that any management that promises to increase the crop of wheat after corn, would be useful, and I have no doubt will be well received. It is but a few years since the practice was universal to sow wheat among the standing corn; that practice is now and properly so generally exploded, that it is rare to see a field managed in that way. The corn is now cut up and stacked in the field, or hauled off at once, and the land ploughed before it is seeded. The only objection to this is, that it makes the seeding too late, so that the wheat has not sufficient strength of root to bear the alternate freezing and thawing of our irregular winters; it is less able to resist the fly in the spring and more subject to rust, and the more common calamity in this climate of ripening too suddenly: the inevitable consequence of which is the grain being light and shrivelled. The importance of sowing wheat in proper time upon land in good order, is known to every farmer. It usually makes the difference of a good or a saving crop, and one that will not pay the expense of seed and culture. Until we had to combat with that most formidable foe the *Hessian Fly*, our seed time was ample; wheat was sowed from the middle of August to the middle of October. The opinion now is, that there is little chance for wheat to escape the fly in the fall, if it is sown earlier than the 8th or 10th of October, and as little of its preservation from the same enemy in the spring, if sown after October. Twenty days, subject to a deduction for Sundays and for rain, would reduce the seeding time to 12 or 15 days. To this society, it is unnecessary to say, that it is impracticable to accomplish the cutting up the corn, the stacking, hauling it off, and to plough and seed all the wheat land of a farm in that time, with or without fallows; and to do it in a way that would justify the expectation of a crop. If it shall be found that the Lawler wheat does resist the fly after it is generally sown, it will be a treasure (if in no other way) in lengthening the seed time. If we could safely sow two weeks earlier than we do, it would add immensely to the crop in all the clay country; but I fear when there shall be no other wheat seeded, it will be found, that grain will be as subject to destruction as rye is, when there is no wheat for this insect to make use of in propagating itself. I offer to the society the result of an experiment I made last year upon half a field of a hundred acres of corn, that was highly satisfactory, as it enabled me to sow my corn land in better time and in better order than I could have done in any other mode.

I have been long apprized of a practice, which

I believe commenced on the South Branch of the Potomac, and has now spread itself considerably, of cutting down corn and stacking it—precisely at the time, and in the state in which we would in this part of the country, pull the corn blades. When I had the pleasure, some years ago, to be at the house of Mr. John Lewis, in Bath county, about the 10th September, out of a crop of 100 acres of corn, he had then cut and stacked fifty acres, and informed me he should continue until he had secured the whole in the same way; that he had repeatedly done it before, and that he was thoroughly satisfied that he did not make less corn than he would have done under the old management; that he had vastly more provender for cattle than he would have had in the common mode of saving the fodder, and there was a saving of half the labour. On my return to Albemarle, I mentioned to my neighbours what I had seen and heard, and suggested the benefit we might derive from pursuing the same practice: but the universal opinion was, that our corn would either rot or shrivel, if cut in that state. I had two experiments made the next year, but they were executed in the manner that such experiments usually are, by unwilling agents. In 1817, my loss of wheat by the fly was so great, particularly upon my late sown and badly prepared corn fields, that I determined, in future, to confine my seeding to land which I could sow in good time, and in good order. In the course of last winter, I had an opportunity of conversing with a gentleman (Wm. Steinbergen, Esq.) who had practised for many years the early cutting up of corn; his assurances were so positive as to the saving of labour, the security of the corn and the increase of feed for stock, that I determined to make the experiment this year upon a scale and in a way that would be conclusive, and in a place that others would have an opportunity of judging of it as well as myself. With this view, I selected a field in the fork of a very public road—the field was nearly square. I divided it into two equal parts, as nearly as I could by the eye, and had all the corn cut and stacked by the middle of September from that part of the field lying on and nearest the two roads. This field had been planted early in April, but the corn came up so badly that it was re-planted in May. The entire crop was from the re-planted corn. This circumstance, with an unusually dry season (the land not being thoroughly wet from the planting to the cutting up of the corn) caused the crop to be very late, when it was cut, except those parts of the field which had been manured. I thought the corn was rather green to make it safe to pull the fodder. My manager, Mr. Wm. S. Fowler, whose skill and judgment I relied very much upon in other things, expressed great reluctance at risking so much corn, and great apprehensions as to the result. Immediately after the corn was cut, and before it was all stacked, we had three days rain. The opinion of all who saw the corn, was, that the crop was ruined. About the middle of October, my people began to use it for hogs, and from the 10th to the 15th of November, the remainder was pulled and housed. The corn was found as good as that half of the field which was not cut; with an immense quantity of long forage for stock, not as good perhaps, as well cured blades, but greater in quantity and value than would have been had in the common way.

Upon a farm, where two-fifths of the land is in clover, as much hay, (a better food for horses than fodder) can be made, as the horses of a farm can require—This course is recommended by a great saving of time at the busiest season of the year, except harvest. I am confident the corn can be cut and stacked in half the time that will be required to save the blades and tops in the present mode. In fodder getting, the great consumption of time is in passing over the field so often row by row.—In the old method, this is done at least five times; in the new, the corn is cut and stacked at two operations. The hauling where every thing is removed from the field as it should be, is the same in the new and the old method; but the great and decided recommendation of it is that the land is better prepared, and the wheat sown in good time.

In the old method, about the middle of October is as soon as it is thought safe to cut and stack the corn. When the corn is stacked entire, the bottom of the stack is more open, and the ears are not pressed upon each other as they are when every thing is stripped from the stalk but the ear. If the preparations of the corn land commenced as late as the middle of October, the work, from the hurried manner in which it is done, is badly executed—and the seeding unavoidably delayed to too late a period; whereas by having our fallows in order by the time fodder is ripe, the whole preparation for seeding may be completed by the time it will be safe to sow. The mere seeding, when it is done with the harrow, as it should be upon well ploughed land, is quickly performed. These objects will be facilitated by planting a forward corn, that will ripen several weeks earlier than the corn which is generally cultivated. There is a difference of at least two weeks between a corn that is made by many of my neighbours in Albemarle, and considered a productive grain, which has an unusually small red cob) and the common corn of our county Mr. Richard Sampson and Mr. Thomas M. Randolph (Tuckahoe) two valuable members of our society, recommend highly a forward corn they cultivate, which I believe was brought originally from the State of New York.—The practice above the mountains is to cut eight rows and leave eight. When the field is gone over in this way, they return and cut the remainder, which is put on the outsides of the stacks first secured: by this management the interior of the stack is better cured than if it all was stacked at once. I did not however, pursue this method; my corn was all cut at once, and it was intended to let it take a day's sun on the ground, seventeen rows being put together, and the corn stacked upon the middle row of the seventeen. I recommend this practice with great confidence but at the same time advise all those who are in the least sceptical to make the experiment upon a small scale, so that if they do not succeed, the loss will not be material. This caution will be observed by all prudent farmers, upon every occasion, where great changes are recommended to them. In the first experiment, let the quantity of corn, cut as early as I propose, be confined to what will be sufficient for fattening the hogs raised on the farm, and what will be necessary for consumption in the course of the fall. It will not escape an experienced farmer, that corn managed in this way, will be more secure from frost.

* These are not the fallows so justly reprobated by Mr. Young; the French course he speaks of, is wheat, fallow, rye.

The outside of the stalks will cure quickly, and the inner be impervious to frost.

The credit of this change in the management of corn, is due to the people of the South Branch of Potomac, who are as yet but little in the habit of making wheat, and derive no advantage from the culture of corn as a preparation for wheat. No circumstance can afford stronger evidence of the value of Agricultural Societies, than the fact, that in one part of this state a practice should have prevailed for more than thirty-five years, and be unknown to a vast majority of the people of Virginia, to whom it would be most useful. If I do not overrate its importance, there can be no doubt of its being of the greatest value to those who depend most upon their corn land for their wheat crops. Through this and other societies I flatter myself, there will be so rapid an interchange of information in future, that the benefit of an improvement in one part of our country will be speedily communicated to every part of it.

W. C. NICHOLAS.

When this paper was read to the Society, Mr. Steinbergen, from Shenandoah, and Mr. Mackie from Hardy, two highly respectable members of the Society, vouched for the good effects of the practice I have recommended, from 30 years experience. Upon the great points about which there could be any doubt, the testimony of these gentlemen must have been entirely satisfactory. They both confirmed my statement, that the grain was equally safe, and good, and that the value of the forage was increased, and a great saving of labour.

AN ADDRESS

To the "Maryland Agricultural Society" from the President,

ROBERT SMITH, Esquire

In this country agriculture ought to be considered, as the most honourable, as well as the most useful of all the employments of man. It was so esteemed by the wisest, the richest, and the most powerful nations of antiquity. The Egyptians, the Carthaginians, the Greeks and the Romans, as appears from every account, carried this all-important art to a degree of perfection unknown to us. At one period, however, from a coincidence of peculiar circumstances, the lands of Italy were neglected, as are, at this time, the lands of Maryland. The whole country was reduced to the utmost distress. So awful, indeed, was the crisis, as to require the interposition of the government. To a distinguished personage, universally admired for his knowledge and beloved for his virtues, application was made for his best endeavours to rouse the people from their lethargy and to excite, in them a passion for agriculture. The result of this application, was the publication of the celebrated Georgicks—a work, in which are to be found the best precepts and rules of husbandry, recommended in a style and manner the most charming and persuasive. Instantly was manifested a spirit of agricultural improvement, which soon diffused itself throughout the whole country.

Not having a Virgil to arouse us from our morbid indolence, our only practical expedient is the formation of well organized agricultural

societies. These institutions will, I trust, prove the salutary means of averting the impending calamities. Such associations afford opportunities of comparing the multifarious practices of the most judicious cultivators of the soil. They combine with the experience of the field the experiments of the laboratory. They furnish facilities, not only for acquiring, but for diffusing useful information. They promote the introduction of the best animals, seeds, plants, and implements of husbandry. They excite a laudable emulation. And thus, in their effects, they necessarily tend to accelerate the progress of agricultural knowledge. With a view to these important advantages, this society has been established.

In our estimate of the considerations, which ought to induce us to make an effort to restore fertility to the exhausted soil of Maryland, we cannot but duly appreciate its geographical and its other natural advantages. From its central position, exposed to the extremes of neither heat nor cold, we enjoy a most delightful climate. With such exceptions, as are applicable to most countries, our lands were originally very fertile; and they are, at this time, susceptible, not only of restoration, but of the highest degree of improvement. Our climate and soil are remarkably favourable to the growth of wheat, Indian corn, rye, oats, barley, clover, timothy, potatoes, turnips, and all culinary vegetables, and also to apples, pears, peaches, cherries and other fine fruits. The Chesapeake Bay and its tributary rivers afford to all the counties of the Eastern and to many of the Western Shore, incalculable advantages in the transportation of their produce to market. And the facilities, thus enjoyed, necessarily tend greatly to enhance the value of the lands of those counties.

Important, however, as are our natural advantages, it is to be regretted, that they have not been duly cherished. Our ancestors, finding themselves in possession of a soil rich, as they fancied, beyond the possibility of injury, employed, in the outset, all their forces in the cultivation of tobacco and Indian corn. They afterwards superinduced two other exhausting crops, wheat and oats. Under these destructive crops, without any intervening meliorating ones, our lands have been greatly injured; and, as a necessary consequence, our fortunes have been much impaired. These gloomy observations however, are not applicable to all our landed estates. From a personal knowledge of many, and from accurate information of the other counties, I have the proud satisfaction of saying, that in every county of our state are to be seen farms under a course of tillage, and husbandry, not excelled in any part of the United States. It nevertheless must be admitted that our estates have not, generally, been cultivated to the best advantage. But to what country, and especially to what new country, may not this remark be applied? Let us not, then, content ourselves in reproaching the practices of times past. Let our views be prospective. Let every man endeavour to the utmost of his power, to correct existing imperfections, and to introduce a better system. "Hoc opus, hic labor est."

In our advances towards improvement, the first requisite is a disposition to attend carefully to the practices of agriculturists of long experience and

of established reputation. In a comparative view of the variously managed estates of our country, it is observable, that, in every well conducted farm, there is a systematical rotation of crops. It, thence, may be assumed, as a postulate, that no farm can be profitably conducted without such a regular rotation. The question, then, which presents itself at the threshold, is, which rotation is the best? To this preliminary inquiry, no answer can be given that would suit universally. Much depends on circumstances, viz: the climate, the soil, the distance from the market, the size, the character of the farm, &c. Every person, therefore, will form a system for himself, according to these circumstances.

In the best cultivated parts of Pennsylvania, their farms are generally divided into five fields, and the rotation of crops adopted by them is as follows, viz:

- 1st year—Indian corn
- 2d " —Oats
- 3d " —Wheat
- 4th " —Clover and Timothy for hay
- 5th " —Do. do. for pasturage.

In viewing every such farm, five fields are seen: one in Indian corn, one in oats, one in wheat, one in clover and timothy for hay, and one in clover for pasturage.

For their wheat ground they are in the habit of reserving all their stable manure made during the preceding winter.

To their Indian corn, oats and clover they apply plaster of paris.

Their oat-stubble, with a view to the sowing of wheat thereon, they plough in immediately after harvest, and the ground thus ploughed, they, in the fall, harrow well, and then they haul out, spread and plough in the manure as a preparation for the sowing of wheat.

The wheat ground is laid off in wide furrows, and the seed put in, not with a plough, but with a harrow.

The whole of their wheat ground is in the spring invariably sown with clover.

The second crop of clover is, by them, not pastured, but cut for the seed.

They have not, as was formerly their practice, particular pieces of ground, called meadows, exclusively devoted to the scythe.

Under this system, every farmer, small as well as great, is, in addition to his crop, able, and, in fact, is in the practice of selling every year a certain number of beeves. By these beeves he is, moreover, enabled to accumulate the requisite quantity of manure. And it is a fact worthy of notice, that, notwithstanding the richness of his soil, every such farmer sows with wheat only as much ground as he is then able to manure well, and that the extent of his wheat field is ever regulated by his heap of stable manure.

A proprietor of one of these farms, stating his average clear profits, assured me that all the work was performed by himself and one hired labourer. I expressed my surprise that such an amount of profits could proceed from the labours of two men. Don't you see, said he, pointing to a number of beeves in a clover field, how hard those fellows are working for me?—Such coadjutors are at the service of every man who will adopt a similar system of husbandry.

To the Pennsylvania rotation there may be

made this objection, viz: -that three farinaceous crops, corn, oats, and wheat, follow each other. The injurious effects of such a succession, it may, be inferred, reasoning *a posteriori*, have been abundantly obviated by the ploughing in of the oat-stubble, and by the high manuring of their wheat ground. At all events, the Pennsylvanians cannot but be tenacious of their present system, as their farms, under it, exhibit no marks of deterioration, but on the contrary, every indication of progressive improvement.

Believing, as I do, that the lands of Maryland cannot be reclaimed, and of course that the fortunes of our farmers cannot be improved, but by adopting and pursuing a judicious rotation of crops, I shall take the liberty of submitting for consideration another system, under which a farm would be divided into seven fields, viz:

1st year—Indian corn interspersed with as many pumpkins and beans as can grow to advantage, and the head lands in buck-wheat.

2d year—Swedish turnips in drills, or part in Swedish turnips and part in potatoes.

3d year—Spring Barley, or oats, or both.

4th—Wheat.

5th year—Clover and Timothy for hay.

6th year—Clover and Timothy for pasturage, or to be cut for soiling.

7th year—Rye.

As Indian corn is a hungry feeder; as for it manure cannot be too coarse or too abundant, it is recommended that the manure of the farm yard, made in the course of the preceding winter, be every spring, applied to the corn field, and be well covered by the plough. This is deemed preferable to the practice of reserving it for the autumn. In the latter case it is exposed to the injuries of the sun, the winds, and the rains during the whole summer, and is, moreover, during all that time, altogether inoperative. In the former case it is protected from those injuries, and, at the same time, is operative in greatly augmenting a valuable crop. Indian corn, under this practice, has, to my knowledge, been extremely luxuriant. But in sowing oats, the ensuing spring, upon such corn fields, there has been every year a mortifying disappointment. The ground in every instance, proved to be too rich for oats, and was, moreover, crowded with multitudes of weeds. The experience of these vexatious evils has suggested the idea of an intervening crop of Swedish turnips in drills, or turnips and potatoes, with a view to the clearing of the ground, as well as to the obtaining of valuable roots, that delight in a rich soil.

This proposed rotation of crops would tend to clean, as well as to improve ground. It would, it is believed, eventually eradicate even garlic itself. It would, moreover, furnish the great desideratum, a regular supply of both summer and winter food for all kinds of stock.

In undertaking to reclaim an exhausted farm here will be experienced no serious difficulties but in the beginning. And these difficulties will proceed altogether from the deficiency of winter and summer food for the maintenance of the stock necessary to produce the requisite manure. Effectual measures, then, must, in the outset, be taken to provide clover or other artificial grasses, or hay in winter and for pasturage or for soiling in summer, and also a plentiful supply of pump-

kins and Swedish turnips for food during the autumn, winter and spring months.

Stable manure is confessedly an essential, indispensable article. Without it the farmer labours in vain. To obtain it he must have a competent number of neat cattle and other stock. And to maintain such a stock he must have an adequate supply of summer and winter food. It hence results, that no rotation of crops can produce the desired effect, unless it ensure a competent supply of winter and summer food for the maintenance of such neat cattle and other stock, as may be sufficient to make all the manure necessary for the progressive improvement of the farm.

From the Practical American Gardener.

[Published by Fielding Lucas, jun.]

For the Month of August.

Water Cresses.

Sow the seed in a watery or moist place; they are not to be cut the first year.

Spinach.

In the last week of this month, sow a principal crop of the prickly seeded spinach, for early spring use; this ought to be sown on a dry soil. A second sowing will be necessary, in the first week of September.

Turnips.

The first week in this month is a suitable time to sow the principal crop of turnips, for autumn and winter use, whether in the garden or field. In the eastern states the last sowing ought to be in the first week of this month. In the southern states they may be sown later.

Artichokes.

The late spring planting of artichokes, should now be treated, as directed for the older plants as before directed.

Asparagus.

Asparagus must now be kept perfectly clean from weeds, but particularly those planted last spring, and also the seedling beds, by careful hand weeding.

Celery.

Transplant into trenches, a full crop of late celery, as early in the month as possible, agreeably to directions as given before.

Earth up the advancing crops as directed before.

Peas.

A crop of the early peas may be sown, from the first to the tenth of the month. If the weather prove dry, soak the peas, and water them, as directed before.

Kidney Beans.

Early in this month you may plant a crop of the dwarf kidney beans. If the ground be dry at the time, the drills ought to be watered, and the beans soaked in soft water, four or five hours before planting.

Carolina and Lima Beans.

Hoe and clean between the rows of these, and cut off any runners, that trail on the surface of the ground which only tend to rob the bearing vines.

Parsnips.

About the fifteenth of the month, in the middle and eastern states, a bed of parsnips may be sown in drills as before directed. These will come up this fall and they may be wed with a

hoe, and kept clean from weeds and in the spring thin them as before directed. Should any run up for seed (which they seldom will) these may be pulled out. The ground should be previously trenched two spades deep, and well manured.

Herbs.

Cut such herbs as are now in flower to distil, or to dry for winter use; always perform this, when they are dry, and spread them in a dry shady place.

Collecting seeds.

As the different kinds of seeds ripen, gather them in dry weather, and manage them as directed last month.

Spinach.

Prepare some ground, and sow a crop of the smooth round seeded kind, to be sown in the first week of the month; these will be fit for use in September. Sow more in the second week, which will be good in October.

In the last week of this month, sow the first principal crop of the prickly seeded spinach, for early spring use; this ought to be sown on a dry gravelly soil, for on such it will stand the winter better than on any other. With this sowing, scatter a few seeds of brown Dutch or cabbage lettuce.

Dung or Compost Heaps and Weed Heaps.

The dung and compost heaps, during the summer months, should be kept free from weeds; for if the seeds are permitted to ripen and fall, the dung, when carried into the garden, will poison the whole ground.

The manure produced by the heaps of weeds taken out of the garden, should not be introduced therein again, until it is three or four years old.

General Remarks.

Continue to weed all young crops in wet weather then the weeds will come up readily by the roots; water the crops, particularly the young ones, in dry weather, three or four times a week, before sun-rise and particularly after sun-set; clear away the stalks and rubbish of old crops; take showery weather for planting, and dry weather for earthing up plants.

Southern States.

In the southern states, particularly the Carolinas and Georgia, this month being in the commencement of their rainy season, it is common to sow cauliflowers, cabbage, parsnip, onion, leek, &c. in short, the general variety of seeds, that are sown in the middle states, in the months of March and April; these kinds arrive there in a tolerable degree of perfection, before their winter sets in, which is so very mild, as scarcely to injure any of their esculent crops, and such of them as do not arrive at maturity before winter, attain it early in the spring.

Fig Trees.

The wall and espalier fig trees will now be ripening their fruit; they should be kept regularly trained but the knife must not be used except to irregular shoots, as from those of this season's growth fruit is to be expected next year, and these bearing principally towards the extremities, ought not to be shortened.

General Observations.

Have the same care to the orchard, as directed.

Such of your standard peach and other trees, as are over burthened with fruit, and likely to break

down, should be supported with props, to which such loaded branches should be bound with bands of hay, taking care to place some between the branch and stake, lest the bark should be injured. These supports should be taken away, as soon as the fruit is off.

All kinds of seedling trees and shrubs, must now be kept perfectly clear from weeds; in dry weather, be careful to water them frequently, whether in beds, boxes, or pots.

Hoe the ground well between the rows of trees; and train up the various sorts of forest trees and shrubs; but leave some small shoots to detain the sap, for the strengthening of those parts.

Towards the end of this month prepare the ground for autumn planting, and begin to clear and trench these vacant places, where you intend to plant trees or shrubs of any kind, in October or November, &c.

If the land be of a stiff nature, lay it up in high sloping ridges, by exposing more surface to the sun, rain, and dews, which will greatly improve it, and it can by this means be the more expeditiously levelled down, and rendered in a condition fit for planting when necessary.

Budding or Inoculating.

It will answer at this season, to bud peaches, nectarines, almonds, apples, and pears, also apricots on peach or almond stalks; but when the apricot is to be budded on the plum, it ought to be done in July.

Cherries, plums, or any other fruit trees, may be budded this month, if the bark parts freely from the stock. Pears and apples must be inoculated early in the month, while the sap flows freely; but the peach, nectarine, and almond, will succeed any time between the first of August and twentieth of September, provided the stocks are young and vigorous.

You may now inoculate all such curious trees and shrubs as you wish to propagate in that way, almost all will succeed, if budded on suitable stocks; but when the bark will not part freely, it will be fruitless to attempt it. Many sorts now have a second growth, and when that is the case, it will answer to bud them.

Newly Budded Trees.

Carefully examine the stocks, which were budded in June and July, loosen the bandages, and where any shoots are produced below the buds, rub them off; cut off all shoots, which are produced below the inoculation or grafts.

Preserve Stones of Fruit.

Peach, plum, and apricot, and cherry stones should be carefully collected, to plant for raising stocks. Plant them immediately in the seed-beds, and you may continue to collect and plant, till the ground is frozen; for although it will answer to plant them in spring, in case of necessity, yet very few will vegetate then.

Carnations and Pinks.

Transplant the layers and pipings of carnations and pinks, which are sufficiently rooted, and treat them as directed.

Auriculas and Polyanthuses.

Such of the choice auriculas, as were not put into new pots in April and May, may now be so transplanted.

You may take off any strong slips, that have fibres attached to them, and plant them as there directed. All the auriculas will require at this season, to be screened from the mid-day sun, but have the benefit of the morning sun till nine o'clock, and that of the afternoon after four.

Polyanthuses require similar attention as the auriculas.

Transplant the seedlings of both, as directed for auriculas seedling in April.

Transplanting Seedlings, Biennials and Perennials.

Transplant into nursery beds, the young plants of the various kinds of biennial and perennial flowers, that are of a proper size, or they may be planted, where they are finally to remain. The wall flower and stock gillflower, in the middle states, requiring protection in winter, you will attend to directions before given.

Removing Pæonias, Flag Irises.

This month take up, separate, and transplant the roots of pæonias, flag Irises, or any other hardy kinds of tuberous rooted flowers, whose leaves are now decayed. When the roots are taken up, the small offsets should be separated and planted in beds for an increase; the large roots re-planted where designed to flower. Each kind to be planted from three to four inches deep.

Propagating Fibrous Rooted Perennial Plants.

Most of the early flowering fibrous rooted plants, whose flower stems were directed to be cut down in June or July, will, in the course of the month, send forth new suckers from the roots; such may be carefully taken off, and planted in nursery beds, or the whole roots may, towards the end of the month, be taken up, and divided into many plants, taking care that each one be furnished with roots. Trim them neatly before planting, and set them in a shady border, where they can be covered with mats, &c. till rooted. Water them immediately, and repeat it occasionally, till they are in a full growing state.

Pinks, sweet-williams, rose campoin, scarlet lychnises, primroses, double daisies, double perennial catchfly, phloxes, campanulas, violets, dracocephalums, and various other kinds may now be propagated in this way.

Seeds of Bulbous Rooted Flowers.

The seeds of tulips, hyacinths, narcissuses, irises, crown imperials, fritillaries, and lillies, or of any other kinds of bulbs, whose seeds are ripe, may now be sown, in order to obtain new varieties. These, if sown as soon, after being ripe, as they are sufficiently dry and hardened, will vegetate the ensuing spring; but if kept out of the ground till spring, very few of them will come up for a full year after.

Sow the seeds separately in boxes filled with good garden mould, till within two or three inches of the top, which should be of compost—as before directed in No. 1, Shrubbery, or that in Flower Garden. Sow the seeds thick, and cover them with compost about half an inch deep. The depth of earth in the box, should be at least one foot; the bottoms of the boxes perforated with holes, each about an inch in diameter, and covered with shells, to allow the extra moisture to pass off. The boxes to be placed in a warm situation, kept free from weeds, and protected from frost by a slight covering of mats, till the spring when the plants will appear. Early in May, place the

boxes in the shade, but not under trees, and in dry weather, give them a very small portion of water. In June, when the leaves are decayed, silt half an inch of earth over that in the boxes, and on the approach of winter, protect them from frost as before. Continue the same treatment winter and summer, till the month of July, in the third year; the roots may then be taken up, dried, and treated, as directed for large bulbs or off-sets. A few of the strongest roots will flower the fourth year, about one half may flower the fifth, and in the sixth year, every healthy root will bloom. In this method, all the curious varieties are raised, and if one valuable new flower is produced from hundreds thus propagated, the florist exults.

Plants in Pots.

Such plants as are in pots, require to be watered frequently; some kinds requiring it twice a day, in very dry weather, others once a day; a few sorts not so often. There is a surprising difference in the constitution of plants, with respect to the consumption of water, some absorbing and discharging it quickly, others very slow; you must therefore be governed by circumstances, in your supplying them with water.

General Observations.

Give water as often as necessary, to all the young plantations of herbaceous flower roots; cut down the stems of such as are past bloom; loosen the earth in the tops of all the pots, containing flowering plants; trim and tie up any loose or straggling plants.

Gather flower seeds as they ripen, and preserve them till the season of sowing; most kinds will keep better in their pods or husks, than when rubbed out.

Propagating Plants.

You may continue to propagate the plants, by cuttings, layers, and suckers, as directed in former months.

Budding Oranges, Lemons, &c.

Any time this month, oranges, lemons, citrons, &c. &c. may be budded, the operation must be performed upon each tree, when it puts forth its first autumn shoots; some trees even the same species will shoot earlier than others, and as soon as a few of them are grown to two or three inches in length, choose that time to bud them, as the sap is then in a fresh state of circulation, the bark of the stock will separate freely for the admission of the bud, and the necessary nourishment will be supplied.

The buds must be taken from shoots produced in the early part of the present season. The most suitable stocks are those raised from the kernels of either of the species. For the method of budding, see as before directed.

After budding, place them in the shade, for three or four weeks.

Cut off oranges, lemons, jasmins and other exotics, which were inarched in April or May, provided they are sufficiently united.

Shifting and giving fresh Earth to the Plants.

The critical period for the summer shifting into large pots, such of the green house plants, as are too much confined, is after they have perfected their spring or summer shoots, and before they begin to push their autumn growth; this is generally to be done in the first week of this

month. Perform this operation as before directed.

Such pots, in which the earth is hard or stiff must have it loosened, taken out, and some compost added; pick off any decayed leaves, and trim disorderly branches, which will give a fresh appearance and beauty to the collection, as also promote the vigorous growth of the plants.

Water the Plants.

Carefully attend to the watering of all the plants, giving it as often as necessary; and in proportion to the consumption of each; always administering it sparingly to succulent kinds.

Water should be poured occasionally through the nosel of a watering pot, over the branches of the shrubby kinds, which will wash the dust off from the leaves, and refresh them greatly; this should be done in the evening, near sun-setting.

Earth Burning.

Several of our subscribers have reminded us of a promise we made in a preceding number, to publish in the *American Farmer*, such observations as we should meet with in the course of our readings, on *Earth burning*, to make manure.—Having in a great measure disposed of original communications, we have embodied in this number, what has appeared to us most explicit and satisfactory on the subject. There is no doubt, as well from the manifest reason of the thing itself, as from the concurrent testimony of those who have proved its utility, that the burning of earth of a particular kind, under many circumstances, is highly to be recommended, not only as a means of reducing the soil, and by that means effectually cleaning rough land; but also as a resource for obtaining a species of manure, highly favorable to the growth of certain vegetables. Our readers may judge, therefore, for themselves, on what kind of land this operation may be most advantageously applied, and under what circumstances, it is most advisable to have recourse to it; and to what species of crop it is likely to be most propitious in its effects. We here submit from all we have seen, what seems to be most worthy of attention; and first we copy from 'CORBETT'S YEAR'S RESIDENCE IN THE UNITED STATES' all that he has there said as to *Earth Burning*.

As to the quantity and sort of manure to be used in general, it may be the same as for a sowing of Rye, or of Wheat. I should prefer ashes; but my large crops in England, were on yard dung, first thrown into a heap, and afterwards turned once or twice in the usual manner as practised in England. At Hyde Park I had nothing but *rakings up*, about the yard, barn &c. as described before. What I should do, and what I shall do this year, is, to make ashes out of dirt, or earth, of any sort, not very stony. Nothing is so easy as this, especially in this fine climate. I see people go with their wagons five miles for *Soaper's ashes*; that is to say *spent ashes*, which they purchase at the landing place (for they come to the Island in vessels) at the rate of about five dollars for forty bushels. Add the expense of land carriage, and the forty bushels do not cost less than *ten dollars*. I am of opinion, that, by the burning of earth, as much manure may be got upon the land for half a dollar. I made an experiment last summer, which convinces me, that, if the spent ashes, be received as a gift, at three miles distant of land carriage, they are not a gift worth accepting of. But, this experiment was upon a small scale; and therefore, I will not now speak positively in the subject.

"I am now preparing to make a perfect trial of these ashes. I have just ploughed up a piece of ground, in which a few years ago, Indian Corn was planted, and produced as I am assured, only stalks; and those not more than two feet high. The ground was, every year since, borne a crop of weeds, rough grass and briars or brambles. The piece is about ten

acres. I intend to have Indian Corn in it, and, my manure shall be made on the spot, and consist of nothing but burnt earth. If I have a decent crop of Indian Corn on this land so manured, it will I think puzzle my good neighbours to give a good reason for their going five miles for spent ashes.

"Whether I succeed or not, I will give an account of my experiment. This I know that, I, in the year 1815, burnt ashes, in one heap, to the amount of about two hundred English cart-loads, each load holding about forty bushels. I should not suppose that the burning cost me more than *five dollars*; and there they were upon the spot in the very field, where they were used. As to their effect, I used them for transplanting Ruta Baga and Mangie Wurtzel, and they produced full as great an effect as the yard dung used in the same land. This process of burning earth into ashes, without suffering the smoke to escape, during any part of the process, is a discovery of Irish origin. It was pointed out to me by Mr. WM. GAUNTLETT, of Winchester late a commissary with the army in Spain. To this gentleman I also owe England owes, and I hope America will owe, the best sort of hogs, that I believe are in the world. I was wholly unacquainted with MR. GAUNTLETT, till the summer of 1815, when happening to pass by my farm, he saw my hogs, cows, &c. and, when he came to my house he called, and told me, that he had observed, that I wanted only a good sort of hogs to make my stock complete. I thought that I already had the finest in England, and I certainly had a very fine breed, the father of which, with legs not more than about six inches long weighed when he was killed, twenty-seven score, according to our Hampshire mode of stating hog meat weight; or five hundred and forty pounds. This breed has been fashioned by Mr. Woods, of Woodman-cot, in Sussex, who has been, I believe, more than twenty years about it. I thought it perfection itself; but, I was obliged to confess that Mr. Gauntlett's surpassed it.

"Of the *earth burning* I will give an account in my next part of this work. Nothing is easier, or of performance; and the materials are every where to be found.

I have spoken of a mode of procuring manure (as you can see above) by the burning of earth, and I proposed to try it this present year. This I have now done, and I proceed to give an account of the result.

I have tried the efficacy of this manure on Cab-bages, Swedish Turnips, Indian Corn, and Buck-wheat. In the three former cases, the ashes were put into the furrow and the earth was turned over them, in the same way that I have described above. With regard to the manure for Savoy's. I put at the rate of about *twenty tons* weight to an acre. In the case of the Buckwheat, the ashes were spread out of the wagon upon a little strip of land on the outside of the piece. They were *thickly* spread; and it might be that the proportion exceeded even thirty tons to the acre. But, upon the part where the ashes were spread, the buckwheat was three or four times as good as upon the land adjoining. The land was very poor. It bore buckwheat last year, without any manure. It had two good ploughings then, and it had two good ploughings again this year, but had no manure, except the part above mentioned and one other part at a great distance from it. So that the trial was very fair indeed.

In every instance, the ashes produced great effect, and I am now quite certain, that any crop may be raised with the help of this manure; that is to say, any sort of crop; for of dung, wood-ashes, and earth-ashes, when all are ready upon the spot, without purchase or carting from a distance, the two former are certainly to be employed in preference to the latter, because a smaller quantity of them will produce the same effect, and, of course, the application of them is less expensive. But, in taking to a farm unprovided with the two former; or under circumstances which make it profitable to add to the land under cultivation, what can be so convenient, what so cheap as ashes procured in this way?

A near neighbour, of mine Mr. DAYKEA, sowed a piece of Swedish Turnips, broad-cast in June, this year. The piece was near a wood, and there was a great quantity of clods of a grassy description. These he burnt into ashes, which ashes he spread over one half of the piece, while he put *Soaper's ashes* over the other part of the piece. I saw the Turnips in October; and there was no visible difference in the two parts, whether as to the vigorousness of the plants or the bulk of the Turnips.—They were sown broad-cast and stood unevenly upon the ground. They were harvested a month ago, (it is now 26th of November,) which was a month too early. They would have been a third at least, more in bulk, and much better in quality, if they had remained in the ground until now. The piece was seventy paces long and seven paces wide; and the reader will find, that, as the piece produced *forty bushels*, this was at the rate of *four hundred bushels to the acre*.

What quantity of earth-ashes were spread on this piece it is impossible to ascertain with precision, but I shall suppose the quantity to have been very large indeed in proportion to the surface of the land. Let it be four times the quantity of the Soaper's ashes. Still, the one was made upon the spot, at, perhaps, a tenth part of the cost of the other; and, as such ashes can be made upon any farm, there can be no reason for not trying the thing, at any rate, and which *trying* may be effected upon so small a scale as not to exceed in expense a half of a dollar. I presume, that many farmers will try this method of obtaining manure; and, therefore, I will describe how the burning is effected.

There are two ways of producing ashes from earth. The one is in heaps upon the ground, and the other within walls of turf or earth. The first, indeed, is the usual way of burning of *turf*, or *peat*. But, let us see how it is done.

The surface of the land is taken off to a depth of two or three inches, and turned the earth side uppermost to *dry*. The land, of course, is covered with grass or heath, or something, the roots of which hold it together, and which makes the part taken off take the name of *turf*. In England, this operation is performed with a *turf-cutter*, and by hand. The turfs are then taken, or a part of them at least, and placed on their *edges*, leaning against each other, like the two sides of the roof of a house. In this state they remain till they are dry enough to burn. Then the burning is begun in this way. A little straw and some dry sticks; or any thing that will make a *trilling* fire, is lighted. Some little bits of the turf is put to this. When the turf is on fire, more bits are carefully put round against the openings whence the smoke issues. In the course of a day or two the heap grows large. The burning keeps working on the inside, though there never appears any *blaze*. Thus the field is studded with heaps. After the first fire is got to be of considerable bulk, no straw is wanted for other heaps, because a good shovel full of fire can be carried to light other heaps, and so on, until the heaps are lighted. Then the workman goes from heap to heap, and carries the turf to *dry*, by degrees, putting some on each heap every day or two, until all the field be burned. He takes care to keep in the smoke as much as possible. When all the turf is put on, the field is left; and, in a week or two, whether it rain or not, the heaps are ashes instead of earth. The ashes are afterwards spread upon the ground; the ground is ploughed and sowed and this is regarded as the very best preparation for a crop of Turnips.

This is called "*paring and burning*." It was introduced into England, by the Romans, and it is strongly recommended by the First Georgic of Virgil, in as Mr. Tull shows very fine poetry, very bad philosophy, and still worse logic. It gives three or four crops even upon poor land, but it ruins the land for an age. Hence it is that tenants in England are, in many cases, restrained from paring and burning, especially towards the close of their leases. It is the Roman husbandry, which has always been followed, until within a century, by the French and English.

It is implicitly followed in France to this day; as it is by the great mass of common farmers in England. All the foolish country sayings about Friday being an unlucky day to begin any thing fresh upon; about the *noise of geese* foreboding bad weather; about the *signs of the stars*; about the influence of the *moon* on animals: these, and scores of others, equally ridiculous and equally injurious to true philosophy and religion, came from the Romans, and are inculcated in these books, which pedants call "*classical*," and which are taught to "*young gentlemen*" at the universities and academies. Hence, too, the foolish notions of sailors about Friday, which notions very often retard the operations of commerce. I have known many a farmer, when his wheat was dead ripe, put off the beginning of harvest from Thursday to Saturday, in order to avoid *Friday*. The stars save hundreds of thousands of lambs and pigs from sexual degradation at so early an age as the operation would otherwise be performed upon them. These heathen notions still prevail even in America, as far as relates to this matter. A neighbour of mine in Long Island, who was to operate on some pigs and lambs for me, begged me to put the thing off for a while, for that the *Almanac* told him, that the *signs* were just then, as *unfavourable* as possible. I begged him to proceed, for that I set all *stars* at defiance. He very kindly complied, and had the pleasure to see, that every pig and lamb did well. He was surprised when I told him this mysterious matter was not only a bit of priestcraft, but of heathen *priestcraft*, cherished by priests of a more modern date, because it tended to bewilder the senses, and to keep the human mind in subjection. "What a thing it is," said I, "that a cheat practised upon the Pagans of Italy, two or three thousand years ago, should, by Almanac-Makers, be practised upon a sensible farmer in America!" If priests, instead of preaching so much about mysteries, were to explain to their hearers the origin of cheats like this, one might be ready to allow that the wages paid to them were not wholly thrown away.

I make no apology for this digression; for, if it have a tendency to set the minds of only a few persons on the track of detecting the cheater of priests, the room which it occupies will have been well bestowed.

To return to *paring and burning*: the reader will see with what ease it might be done in America, where the sun would do more than half the work. Besides the *paring* might be done with the *plough*. A sharp shear, going shallow, would do the thing perfectly well. Cutting across would make the land into turfs.

So much for *paring and burning*. But what I recommend is, not to burn the land which is to be cultivated, but *other earth*, for the purpose of getting ashes to be brought on the land. And this operation, I thus perform. I make a circle, or an oblong square. I cut *sods* and build a wall round three feet thick, and four feet high. I then light a fire in the middle with straw, dry sticks, boughs, or such like matter. I go on making this fire larger and larger, till it extend over the whole bottom of the pit, or kiln. I put on roots of trees or any rubbish wood, till there be a good thickness of strong coals. I then put on the *driest* of the clods that I have ploughed up round about, so as to cover all the fire over. The earth thus put in will burn. You will see the smoke coming out at little places here and there. Put more clods wherever the smoke appears. Keep on thus for a day or two. By this time a great mass of fire will be in the inside. And now you may dig out the clay, or earth, any where round the kiln, and fling it on without ceremony, always taking care to *keep in the smoke*; for, if you suffer that to continue coming out at any one place, a hole will soon be made; the main force of the fire will draw to that hole; a blaze, like that of a volcano, will come out, and the fire will be extinguished.

A very good way, is to put your finger into the top of the heap here and there; and if you find the fire very near, throw on more earth. Not too much at a time, for that weighs too heavily on the fire, and keeps it back; and, at first will put it partially out.

You keep on thus augmenting the kiln, till you get to the top of the walls, and then you may, if you like, raise the walls, and still go on. No rain will affect the fire, when once it is become strong.

The principle is to *keep out air*, whether at the top or the sides, and this you are sure to do, if you *keep in the smoke*. I burnt, this last summer, about thirty wagon loads in one round kiln, and never saw the smoke at all after the first four days. I put in my finger to try whether the fire was near the top; and when I found it approaching, I put on more earth. Never was a kiln more completely burnt.

Now, this may be done on the skirt of any wood, where the matters are all at hand. This mode is far preferable to the *above ground burning in heaps*. Because in the next place, the *smoke escapes there*, which is the finest part of the burnt matter. *Soot* we know well, is more powerful than ashes, and soot is composed of the *grosser parts of the smoke*. That which flies out of the chimney is the best part of all.

In case of a want of wood wherewith to begin the fire, the fire may be lighted precisely as in the case of *paring and burning*. If the kiln be large, the oblong square is the best figure. About *ten feet wide*, because then a man can fling the earth easily over every part. The mode they pursue in England, when there is no wood, is to make a sort of building in the kiln with turfs and leave air holes at the corners of the walls, till the fire be well begun. But this is tedious work; and is in this country wholly unnecessary. Care must, however, be taken, that the fire be well lighted. The matter put in at first should be such as is of the lightest description; so that a body of earth on fire may be obtained, before it be too heavily loaded.

The burning being completed, having got the quantity you want, let the kiln remain. The fire will continue to work, until all is ashes. If you want to use the ashes soon, open the kiln. They will be cold enough to remove in a week.

Some persons have *peat*, or bog earth. This may be burnt like common earth, in kilns, or dry as in the *paring and burning* method. Only, the *peat* should be cut out in the *shape of bricks*, or, as much longer and bigger as you find convenient, and set up to dry in the same way that bricks are set to dry previous to the burning. This is the *only fuel* for houses in some parts of England. I myself was nursed and brought up without ever seeing any sort of fire. The ashes used, in those times, to be sold for *4d sterling* a bushel, and were frequently carried, after the purchase, to a distance of ten miles, or more. At this time in my own neighbourhood, in Hampshire, *peat* is burnt in large quantities, for the ashes, which are sold, I believe as high as *six-pence sterling* a bushel, and carried to a distance of even twenty miles in some cases.

Nevertheless it is certain, that these ashes are not equally potent upon every sort of soil. We do not use them much at Botley, though upon the spot. They are carried away to the higher and poorer lands, where they are *sown by hand upon clover and sain foin*. An excellent farmer, in this Island, assures me that he has tried them in various ways, and never found them to have any effect. So say the farmers near Botley. But, there is no harm in making a *trial*. It is done with a mere nothing of expense. A yard square in a garden is quite sufficient for the experiment.

With respect to earth-ashes, burnt in kilns, *keeping in the smoke*, I have proved their great good effect; but, still I would recommend trying them upon a small scale. However let it be borne in mind, that the proportion to the acre ought to be large. Thirty good tons to an acre; and why may it not be such, seeing that the expense is so trifling?

This subject will hereafter be continued, from other authors.

The *Virginia Agricultural Society*, of which Mr Madison is the President, have eclipsed the whole and exceeded all other examples in any age or country—they have, it is said, promulgated to pay four

years hence, \$10,000 for the best farm in that State, not less than 500 acres; \$5,000 dollars for the next best—\$2,000 dollars for the third best—the latter not less than 200 and 100 acres. N. H. Parrot.

THE FARMER.

BALTIMORE, FRIDAY, JULY 23, 1819.

COMMUNICATION.

FRIEND SKINNER,

As you Editors are knowing men, and have recommended economy as an effectually remedy for the distresses of the times; I will thank you to descend to particulars, and tell us Farmers how we are to practice it. As far as depends on myself, I do very well.—You have no notion how much I save by sitting in the dark of an evening; drinking rye coffee; and using molasses instead of sugar. But, where others are concerned, I do not get on so well. My neighbour *Swankey*, tells me, that "it takes, two at least to make a bargain," and I find that he is more than half right. I am baulked in my schemes of economy, by my tradesmen, Mr. *Ship*, Mr. *Crispin* and Mr. *Raccoon*, who still demand war prices for articles in their line. A few weeks ago, finding "the devil to pay among the tailors" in your renowned city, I thought it would be a good time to get a new coat, the one I have on, not being able to bear another turning; so I called on Mr. *Ship*, and, by way of putting him in a good humour, rubbed out all *old scores*; but, would you believe it? he had the conscience to ask me \$42 50 for one, notwithstanding the late rebellion of the journeymen, so I have to wear the old coat still. Why, sir, the wool of forty merines, (which by the by, is twenty more than I have) would not pay him for a suit of broadcloth at this rate; and it will take the carcasses, as well as wool, of nine of my fat lambs, to buy me a hat and a pair of half boots, articles that I must use, whether I am curtailed at Bank or not, and then, (having no relations to quarter on in town,) when I go up to sell my *crap*, or to meet the Agricultural Society I am under the necessity of visiting "mine Host of the Garter," where I make nothing of devouring a whole pig for dinner, a sheep a day, or "taking the hog roun," sixteen pounds of bacon; half a bushel of white wheat, buys me half a pint (so called) of wine; a bushel of corn, half a pint of whiskey; while a bushel of oats, with the aid of five cents in cash, pays for a night's lodging. For a pound of butter, I get my shoes blacked twice, and for a peck of *new potatoes*, I get three drinks of grog; it will, however, require a bushel soon, for the same purpose.

As the good old times of barter and exchange appear to be coming round, it may be well for you to give your worthy readers, who are not generally great calculators, some information on this head; for instance, how much flower they ought to bring for a week's expenses; at present, I should suppose, that a strong *Montgomery-team*, would take enough to last, with good management, a fortnight; sixty bushels of wheat, or a score and a half of pretty good sheep, might answer the same end. If you should think it more advisable, you might recommend an *assorted cargo*, according to the demand. As the stage fare from Washington to Baltimore, has got down to \$5, which I can pay with ten bushels of corn, you may soon expect to see me. Your friend, *Montgomery*, July 20, 1819, CORNPLANTER.

Current Prices, ascertained by actual sales last week.

TOBACCO—has rather declined since last week—fine wagon Tobacco sold yesterday, for 14 dolls. and some tobacco from Calvert County from 8 and 10 dolls.—we could hear of no sales of Virginia tobacco for some considerable time past—WHEAT. A few hundred bushels of red wheat, from Cecil, sold on the 20th inst. for 1 25—white corn, 59 cents.

The staple articles of North Carolina have not varied since our last report of them, nor is there any material difference in the price of any other production reported in the last number of the *Am. Farmer*.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, JULY 30, 1819.

NUM. 18.

AGRICULTURE.

On the Management of the Dairy,

Particularly with respect to the Making and Curing of Butter.

BY J. ANDERSON.

The *American Farmer*, we wish our subscribers to understand, is intended no less for their wives than for themselves. Though woman, the most graceful and lovely object in creation, has in this happy land, approached nearer than in any other country to that station of dignity and consequence, which gratitude will never fail to assign her, for the thousand blessings she dispenses around her; still we have often thought that her true importance in the scale of domestic society, is not so universally acknowledged as it deserves.

On the contrary, it has long been fashionable to rail unmeaningly at female extravagance, and to ascribe the ruin of families, to the imprudence and vain frivolities of wives and daughters—whereas, we verily believe, that where a family is brought by such means to disgrace and penury, hundreds are overwhelmed by the idleness, dissipation, and vicious habits of *husbands and sons*—yet, where one volume of rational instruction is written to guide, and fortify *woman*, in her peculiar sphere of duties, thousands have been published to enlighten vain boasting man, the self-nominated "Lord of Creation," in every department of individual, social, and political action.

How long shall we consider frivolous novels, and love-sick ditties, as the only food adapted to the digestive powers of the female mind; and acting on this arbitrary and degrading presumption, bring about by our own treatment, that very debility of understanding, and insignificance of character, which we impiously ascribe to *nature*?

It shall ever be the aim and pleasure of the *American Farmer*, to pay respectful homage to woman's influence over our happiness, and by every means in our power to enlighten and strengthen her in the administration of the many endearing and useful offices, which it is exclusively her province to exercise: amongst these, not the least profitable, or pleasing to an industrious and notable house-wife, is the superintendence of the *Dairy*; but in this, as in many other cases, the husband fails in his duty. He often withholds the essential articles, without which it is impossible for her to perform her part with satisfaction and success, and perhaps in few things, does the *Farmer* provide more inadequately, than in furnishing the means of a *cleanly and profitable Dairy*. We have known many men, to their scandal be it mentioned, with 500 acres of land, and numerous half-clad and half-fed slaves, buy their own butter for winter's use in their family.

Either their cows are of the most worthless breed, or they are, as is most generally the case, utterly unprovided with nourishing *winter food*—and even in summer, when milk is not wanting, their dairies are badly located, injudiciously constructed, and without one solitary vessel or convenience *well adapted to the purpose*. In Maryland, more especially we can say, the garden, the dairy, the poultry yard, and every thing within the range of the house-wife's management, are left to "*shift for themselves*." "My dear, *the hands can't be taken off*," is the usual reply, when he is reminded, that these things require attention; all things must give way to the *corn, wheat and tobacco*, which constitute, in his estimation, the chief goods of this life—until, he seats himself at the table; when nice butter, fine vegetables, and a good fowl, are sure to attract their full share of his regard.

The following observations on the management of the dairy and the making of butter, are the result of much and careful observation, and experiment. They are inserted here, that the *farmer's wife* may be made acquainted with some important particulars in the process of making butter, and that she may be enabled, when the husband finds fault on that score, to intimate to him, what it is necessary for him to provide, and without which, all her exertions must be labour in vain.—*Ed. Farmer.*

When a dairy is established, the undertaker ought to be fully acquainted with every circumstance respecting the manufacture both of butter and cheese; here it is only proposed to treat of the manufacture of butter. The first thing is to choose cows of a proper sort; among this class of animals, it is found by experience, that some kinds give milk of a thicker consistence and richer quality than others. In judging of the value of a cow, it ought rather to be the quantity and quality of the cream produced from the milk in a given time, than the quantity of the milk itself; this is a circumstance of more importance than is generally imagined. The small cows of the Alderney breed afford the richest milk hitherto known; but individual cows in every country, may be found, by a careful selection, that afford much richer milk than others; these, therefore, ought to be searched for with care, and their breed reared with attention, as being peculiarly valuable. In comparing the milk of two cows, to judge of their respective qualities, particular attention must be paid to the time that has elapsed since their calving. To make the cows give abundance of milk, and of a good quality, they must at all times have plenty of food. Grass is the best food yet known for this purpose, and that kind which springs up spontaneously on rich dry soils, is the best of all. If the cows are so much incommoded by the heat, as to be prevented from eating through the

day, they ought to be taken into cool shades for protection; where, after allowing them a proper time to ruminate, they should be supplied with abundance of green food, fresh cut for the purpose, and given them by hand, frequently, fresh and in small quantities, so as to induce them to eat it with pleasure.

Cows, if abundantly fed, should be milked three times a day, during the whole of the summer season, in the morning early, at noon, and in the evening, just before night fall. If cows are milked only twice in twenty-four hours, while they have abundance of succulent food, they will yield a much smaller quantity of milk in the same time, than if they be milked three times. Some attentive observers I have met with, think a cow in these circumstances, will give nearly as much milk at each time, if milked three times, as if they were milked only twice. In the choice of persons for milking the cows, great caution should be employed, for if *all* the milk be not thoroughly drawn from a cow when she is milked, a diminution of the quantity gradually takes place, and in a short time the cow becomes dry. In the management of a dairy, the following peculiarities respecting milk, ought very particularly to be attended to; some of them are, no doubt, known in part to attentive house-wives, but they have never been considered of so much importance as they deserve.

MAXIM I.

Of the milk that is drawn from any cow at one time, that which comes off at the first is always thinner, and of a much worse quality, than that which comes afterwards, and the richness goes on, continually increasing, to the very last drop that can be drawn from the udder at that time.

Few persons are ignorant that milk, which is taken from the cow last of all at milking, which in this country is called *stroakings*, (here *striplings*) is richer than the rest of the milk; but fewer still are aware of the greatness of the disproportion between the quality of the first and the last drawn milk from the same cow at one milking: from several accurate and important experiments, it appears, that the person who, by bad milking of his cows, loses but half a pint of the last milk that might be obtained, loses in fact, about as much cream as would be afforded by six or eight pints at the beginning, and loses besides, that part of the cream, which alone can give richness and high flavour to his butter.

MAXIM II.

If milk be put in a dish, and allowed to stand till it throws up cream, that portion which rises first to the surface, is richer in quality and greater in quantity, than what rises in a second equal portion of time, and the cream that rises in the second interval of time, is greater in quantity and richer in quality, than what rises in a third equal space of time, and so on, the cream decreases in

quantity, and declines in quality continually, as long as any rises to the surface.

MAXIM III.

Thick milk always throws up a smaller proportion of the cream it actually contains to the surface, than milk that is thinner, but that cream is of a richer quality; and if water be added to that thick milk, it will afford a considerably greater quantity of cream than it would have done, if allowed to remain pure; but its quality is at the same time greatly debased.

MAXIM IV.

Milk, which is put into a bucket or other proper vessel and carried in it to any considerable distance, so as to be much agitated, and in part cooled before it be put into the milk pans to settle for cream, never throws up so much nor so rich cream, as if the same milk had been put into the milk-pans directly after it was milked.

In this case, it is believed, that the loss of cream will be in proportion to the time that has elapsed, and the agitation it has sustained, after having been drawn from the cow.

From the above facts, the following corollaries seem to be clearly deducible.

1. It is of importance, that the cows should be always milked as near the dairy as possible, and it must be of great advantage in a dairy farm, to have the principal grass fields as near the dairy as possible.

2. The practice of putting the milk of all the cows of a large dairy into one vessel, as it is milked, there to remain till the whole milking be finished, before any part of it be put into milk-pans, seems to be highly injudicious, not only on account of the loss that is sustained by agitation and cooling, but also, as it prevents the owner of the dairy from distinguishing the good from the bad cow's milk; a better practice, therefore, would be, to have the milk drawn from each cow separately, put into the creaming pans as soon as it is milked, without being mixed with any other. Thus would the careful farmer be able, on all occasions, to observe the particular quality of each individual cow's milk, as well as its quantity, and to know with precision, which of his cows it was his interest to dispose of, and which he ought to keep and breed from.

3. If it be intended to make butter of a very fine quality, it would be advisable in all cases, to keep the milk, that is first drawn, separate from that which comes last, as it is obvious, that if this be not done, the quality of the butter will be greatly debased, without much augmenting its quantity. It is also obvious, that the quality of the butter will be improved in proportion to the smallness of the proportion of the last drawn milk that is retained; so that those who wish to be singularly nice in this respect, will only consume a very small proportion of the last drawn milk.

4. If the quality of the butter be the chief object attended to, it will be necessary not only to separate the first from the last drawn milk, but also to take nothing but the cream that is first separated from the best milk, as it is this first rising cream alone, that is of the prime quality: the remainder of the milk which will be still sweet, may be either employed for the purpose of making sweet milk cheeses, or it may be al-

lowed to stand, to throw up cream for making butter of an inferior quality.

5. From the above facts we learn, that butter of the very best possible quality can only be obtained from a dairy of considerable extent when judiciously managed.

6. From these premises, we are led to draw a conclusion, different from the opinion that is commonly entertained on this subject, viz: that it seems probable that the very best butter can only be with economy made in those dairies, where the manufacture of cheese is the principal object; as but few persons would be willing to purchase the very best butter at a price to indemnify the farmer for his trouble.

I am satisfied from experience and attentive observation, that if in general about the first drawn half of the milk be separated at each milking, and the remainder only be set up for producing cream, and if that milk be allowed to stand to throw up the whole of its cream, even till it begins sensibly to taste sourish, and if that cream be afterwards carefully managed, the butter thus obtained, will be of a quality greatly superior to what can usually be obtained at market, and its quantity not considerably less than if the whole of the milk had been treated alike.

No dairy can be managed with profit, unless a place properly adapted for keeping the milk, and for carrying on the different operations of the dairy, be first provided.* The necessary requisites of a good milk house are, that it be cool in summer, and warm in the winter, so as to preserve a temperature nearly the same, throughout the whole year, and that it be dry, so as to admit of being kept clean and sweet at all times.

From the trials I have made, I have reason to believe, that when the heat is from fifty to fifty-five degrees on Fahrenheit's thermometer, the separation of the cream from the milk, which is the most important operation of the dairy, goes forward with the greatest regularity. When the heat exceeds sixty degrees, the operations become difficult and dangerous, and when it falls below the fortieth degree, they can scarcely be carried forward with any degree of economy, or propriety.

In winter, should the cold become too great, it might be occasionally dispelled, by placing a barrel full of hot water closely bunged up, upon the table, to remain till cooled. This I prefer to any kind of chaffing-dish with burning embers.

The utensils of the dairy must in general be made of wood. As the acid of milk readily dissolves lead, with which the common earthen vessels are glazed, such vessels should be banished from the dairy.

The creaming dishes, (for so I call the vessels in which the milk is placed for throwing up the cream) when properly cleaned, sweet, and cool, are to be filled with the milk as soon after it is drawn from the cow as possible, having been first strained carefully through a close strainer.

These dishes should never exceed three inches in depth, whatever be their other dimensions. As soon as they are filled, they are to be placed on the shelves in the milk house, perfectly un-

* The author here gives a very particular description of the best contrived milk house, or dairy. Vide Bath papers.

disturbed till it be judged expedient to separate the cream from them.

In a moderately warm temperature of the air, if very fine butter be intended, it should not be allowed to stand more than six or eight hours; for ordinary good butter, it may safely stand ten or twelve, or more.

It is of great importance to the success of the dairy, that the *skimming* be well performed, for if any part of the cream be left, the quantity of the butter will be diminished; and if any part of the milk be taken, its quality will be debased.*

When the cream is obtained, it ought immediately to be put into a vessel by itself, there to be kept till a proper quantity be collected for being made into butter. And no vessel can be better adapted to that purpose, than a firm neat made wooden barrel, in size proportioned to the dairy, open at one end, with a lid exactly fitted to close it. In the under part of this vessel, close to the bottom, should be placed a cock and spigot, for drawing off any thin serous part of the milk that may chance to be there generated; for if this is allowed to remain, it injures the cream, and greatly diminishes the richness of the quality of the butter; the inside of the opening should be covered with a bit of gauze netting, to keep back the cream while the serum is allowed to pass, and the barrel should be inclined a little forward, to allow the whole to run off.

The separation of butter from cream, only takes place after the cream has attained a certain degree of acidity. The judicious farmer will therefore allow his cream to remain in the vessel until it has acquired that proper degree of acidity that fits it for being made into butter with great ease, by a very moderate degree of agitation, and by which process only, very fine butter ever can be obtained. How long cream may be thus kept in our climate, without rendering the butter made from it of a bad quality, I cannot say; but it may be kept good for a much longer time than is generally suspected, even a great many weeks. It is certain, that cream which has been kept three or four days in summer, is in an excellent condition for being made into butter; from three days to seven, may in general be found to be the best time for keeping cream before churning.

I prefer the old fashioned upright *churn*, having a long handle, with a foot to it perforated with holes as it admits of being better cleaned, and of having the butter more easily separated from the milk than any others.

Where the cream has been duly prepared, the process of butter making is very easy; there is however more nicety required, than most persons seem to be aware of; a few *hasty, irregular strokes*, may render the butter of scarcely any value, which, but for this circumstance, would have been of the finest quality. The butter when made, must be immediately separated from the milk, and being put into a clean dish, the inside of which, if of wood, should be well rubbed with common salt. The butter should be pressed and

* The cream should be separated from the edges of the dish, by means of an ivory bladed knife, then carefully drawn towards one side by a skimming dish, and then taken off with great nicety.

worked with a flat wooden ladle, having a short handle, so as to force out all the milk that was lodged in the cavities of the mass. The heating up of the butter by the hand is an indelicate and barbarous practice. If the milk be not entirely taken away, the butter will infallibly spoil in a short time, and if it be much washed, it will become tough and glaucous. Some persons employ cold water in this operation; but this practice is not only useless, but also pernicious, because the quality of the butter is thus debased in an astonishing manner. In every part of the foregoing process it is of the utmost importance, that the vessels and every thing else about the dairy, be kept perfectly sweet and clean.

Wooden vessels are the most proper for containing salted butter. Oak is the best wood for the bottom and staves. Broad split hoops are to be preferred to all others.

Iron hoops should be rejected, as the rust of them will in time sink through the wood, and injure the colour of the butter. To season a new vessel for the reception of salted butter, requires great care: it should be filled frequently with scalding water, allowing it to remain till it slowly cools. After the butter has been cleaned from the milk, as before directed, it is ready for being salted. Let the vessels be rendered as clean and as sweet as possible, and be rubbed all over in the inside with common salt; and let a little melted butter be run into the cavity between the bottom and the sides at their joining, so as to fill it, and make it every where flush with the bottom and sides: it is then fit to receive the butter. Common salt is almost the only substance hitherto employed for preserving butter. I have found by experience, that the following composition is in many respects preferable to it, as it not only preserves the butter more effectually from any taint of rancidity, but makes it look better, and taste sweeter and more marrowy, than if the same butter had been cured with common salt alone. The composition is as follows:

Take of sugar one part, of nitre (salt petre) one part, and of the best Spanish great salt, two parts; beat the whole into a fine powder, mix them well together, and put them by for use.

Of this composition, one ounce should be put to every sixteen ounces of butter: mix this salt thoroughly with the butter, as soon as it has been freed from the milk, and put it, without loss of time, into the vessel prepared to receive it, pressing it so close as to leave no air holes, or any kind of cavities within it; smooth the surface, and if you expect it will be more than two days before you add more, cover it close up with a piece of clean linen and over that a piece of fine linen that has been dipped in melted butter, fit this exactly to the edges of the vessel all round, so as to exclude the air as much as possible, without the assistance of any watery brine. When more butter is to be added, remove the coverings, and let the butter be applied close above the former, pressing it down and smoothing it as before, and so on till the vessel is full. When full, let the two covers be spread over it with the greatest care, and let a little melted butter be poured all round the edges so as to fill up every cranny, and effectually exclude the air. A little salt may then be strewed over the whole, and the cover firmly fixed down, to

remain closely shut till opened for use. If this be carefully done, the butter may be kept perfectly sound in this climate for many years.*

It must be remarked, that butter cured in this manner, does not taste well till it has stood at least a fortnight after being salted. After that period is elapsed, it eats with a rich marrowy taste that no other butter ever acquires. Butter thus cured, will go well to the East or West Indies.

Butter, in its natural state, contains a considerable proportion of mucous matter, which is more highly putrescible than the pure oily parts of the butter. When it is intended to be exposed to the heat of warm climates, it ought to be freed from that mucilage before it be cured and packed up. To do this, let it be put into a vessel of a proper shape, which should be immersed in another containing water. Let the water be gradually heated till the butter be thoroughly melted: let it continue in that state for some time, and allow it to settle: the mucous part will fall to the bottom, and the pure oil swim at the top. When it cools, it becomes opaque and paler than the original butter, and of a firmer consistence.—When this refined butter is become a little stiff, and while it is still somewhat soft, the pure part should be separated from the dregs, and then salted and packed up, in the same way as is before directed.

Those who wish to see the subject more fully treated, are referred to the original.

* The Epping butter is called the best in England. The farmers make use of a very innocent colouring matter for their winter and early spring butter, which is the juice of carrots. They take clean and fresh carrots, and grate them fine, and squeeze out the juice through a coarse cloth and mix it with their cream. This gives their butter as fine an appearance as the best June butter, without communicating any taste or flavour.

FROM THE ALBANY ARGUS.

Treatise on Agriculture.

SECTION II.

On the actual State of Agriculture in Europe.

[Continued from No. 10, page 75.]

3d. 'The countries,' says Arthur Young, 'the most rich and flourishing of Europe, in proportion to their extent, are probably Piedmont and the Milanese. We there meet all the signs of prosperity—an active and well conditioned population, great exportations, considerable interior consumptions, superb roads, many opulent towns, a ready and abundant circulation, the interest of money low, the price of labour high; in one word it is impossible to cite a single fact that shows that Manchester, Birmingham, Rouen, and Lyons, are in a condition equally prosperous, as the whole of these Dutchies.' Their population is stated at "1,114,000, and the territory at little more than two millions of arpens, (acres.) Wheat, rye, Indian corn, flax and hemp, the vine and the olive, the caper and the cotton tree, with all kinds of garden fruits and vegetables, are cultivated here: The soil knows no repose, and much of it yields annually and uniformly

two crops of grain, or three of grass. These are the miracles of Irrigation, not a drop of water is lost. Besides the permanent supplies furnished from lakes, ponds, rivers, creeks and springs, even the winter torrent, and summer shower, are every where intercepted by drains, and led to reservoirs, whence they are distributed at will to the neighbouring grounds.

In 1770, an agricultural school was established at Milan, consisting of 220 boys, who were instructed in theoretical and practical husbandry. This institution has escaped the notice of travellers; and we are unable to say whether it has or has not, fulfilled the intention of its projectors.

4. Switzerland has about 1444 square leagues of surface, and presents an assemblage of mountains, one rising above another, until the summits are lost in masses of snow and ice, which never melt. This short description sufficiently indicates the character of both the soil and the climate; yet unpropitious as these are, we find a population of 1242 inhabitants to each square league! "This is perhaps the country of the world, which presents the most happy effects of an industry always active and persevering. The traveller, who climbs her mountains, is struck with admiration when he beholds vineyards and rich pastures in those places which before appeared naked and barren rocks. The traces of the plough are perceived on the borders of precipices where the most savage animals do not pass without danger; in one word, the inhabitants appear to have conquered all obstacles, whether arising from soil, position or climate, and to have drawn abundance from a territory, condemned by nature to perpetual sterility." (2)

5. The classical reader will remember, that Spain was the garden of the Hesperides of the Roman writers; by which was meant the combinations of a fine climate, a rich soil and an active and intelligent agriculture. To this state of things, even the empire of the Goths was not fatal, (3) and that of the Moors rendered it still more distinguished. In their hands, the plains of Valentia were cultivated throughout, with the utmost care and skill; and where their wheels reservoirs, and drains of irrigation, yet remain, the soil continues to yield the richest and most abundant products. In Catalonia, Navarre, Galitia and the Asturias, many species of the ancient agriculture are yet in vigour, because "the leases are long, and the landlord cannot capriciously violate them." The same causes are followed by the same effects, in the three districts of Liscaya, Guiposcoa and Alava. "In running over these, every thing one finds is animated by the presence of liberty and industry; nothing can be more charming than the coasts, nothing more at-

(1) Geographic, Matématique, &c. Article Italie.

(2) Idem. Article Helvetia.

(3) It appears from Varro *Dere rustica* and the letters of Cassidorus, that the Goths introduced into Spain the subterranean granaries, called *Silos*, and the art of irrigation. The former are now exclusively used in Tuscany, and Cato's precept, "Pranta irrigua," &c. shows whence their knowledge of the latter was derived.

tractive than the culture of valleys.—Through-out the thirty leagues that separate Bedassod from Mitoria, every quarter of an hour we discover some well built village, or comfortable cottage.” (4)

How different is the aspect of the other provinces! In these, not more than two thirds of the earth are cultivated; and “it is not uncommon to travel eight and ten leagues together, without finding a trace of human industry. In the district of Badojoz alone, is a desert of twenty-six leagues in length and twelve in breadth.” (5) Ten of the fourteen leagues that traverse the Dutchy of Medina Sidonia, consist altogether of pasture-land. There is no where a vestige of man; not an orchard, not a garden, not a ditch, not a cottage to be seen! The great proprietor appears to reign like the lion in the desert, repulsing by his roaring all who would approach him. But instead of human colonies, we encounter troops of horned cattle and of mares, wandering, self-directed, over plains to which the eye can discover no boundary or barrier, and which brings to one’s recollection the days when the beasts shared with man the empire of the earth” (6)

“Even when the plough is used, it is little more than a great knife fastened to a stick, that just scratches the surface. The grain is threshed by horses, or mules, driven over it, or by means of a plank, studded with nails or flint stones and drawn across it.” (7) With even this miserable culture, the land in Andalusia yields considerable crops; yet are the inhabitants too lazy or too few to gather them together. (8) This is done by Galiegos, who are the labourers of Spain.” We need scarcely remark, that in a state of agriculture like this, the peasantry cannot be either well fed or well clothed. “The mountaineers live principally upon roasted acorns and goat’s milk, and those of the plain (from Barcelona to Malaga) on bread steeped with oil, and occasionally seasoned with vinegar.” (9)

It is wide of our object to examine the causes of the degradation of character, which marks the agriculture of Spain. Well informed writers have ascribed it to the expulsion of the Moors and Jews, to the weight of taxes and imposts, to the *mesta* or common right of pasturage, to the

(4) Burgoing’s Modern Spain, vol. i.

(5) Corde’s *Itineraire de l’Espagne*, vol. iv. p. 30.

(6) Burgoing. Spain has been long renowned for its horses.

The Romans, in settling their pedigree and illustrating their swiftness, called them “*the children of the winds*.”

(7, 8, 9.) Swinburne’s Travels, vol. i. A Spanish peasant, who had earned or begged enough for the wants of the day, will refuse to earn more, even by running an errand. Striking as this fact is, it does not so well illustrate Spanish indolence as the following anecdote from the same pen. In the great sedition at Madrid, which ended in the defeat of the king, and the disgrace of his minister, (Marquis des Squillas) and in its most fervid moments, both parties retired about dinner time to take their *nap* or *meridiana*, after which they returned to the combat with new vigour and enraged fury. If *habits* can thus control the *passions*, to what important uses might not a wise legislation turn them?

discovery of America and its consequences, to the effect of climate and the ill judged charity of bishops and convents, but principally to the great *manorial grants and unequal division* of the soil, which followed the conquest. “We often find six, eight, ten, and even fifteen leagues of extent belonging to one master. The nobility and clergy possess nearly the whole country. One third of Spain belongs to the families of Medina, Celi, D’Alva, De l’Infantado, D’Aceda, and to the archbishops, bishops and chapters of Toledo, Compostella, Valentia, Seville and Murcia. A great proportion of these lands remain untilled and untenanted, and those which are let in *Cor-tijo* or farms, are double or treble the quantity that can be occupied in tillage.” (10)

6. The agriculture of Portugal, has been subjected to the same evils as that of Spain, to which may be superadded, her connexion with Great Britain; under whose policy she has become a raiser of fruit instead of grain.

7. France is probably the country of Europe, which most unites the great desiderata of an extended and profitable agriculture, fertility of soil, mildness of climate, a dense population, an enlightened government, and facility of exportation. Within her ancient limits, she boasts of a surface of more than one hundred and fifteen millions of arpens, and a population of twenty-two millions of inhabitants. The following tables will show, in a compressed form, the nature of her soil, and the uses to which it is put: (11)

Geological Table.

	Arpens, or Aeres.
Alluvial and other rich soil,	26,159,340
Chalky do	13,268,921
Gravelly do	3,261,826
Stony do	18,128,660
Sandy do	7,553,956
Substratum of clay with a slight covering of sand—called <i>landes</i> ,	21,879,120
Granitic and other mountains,	25,261,946

Agricultural Table.

Arable land,	63,600,000
Vineyards,	4,764,960
Woods,	15,931,850
Natural meadows,	5,464,800
Artificial meadows,	6,332,100
Lakes, marshes, wastes,	19,400,049

Total, 113,493,758

From the average of a number of statistical tables made by the Abbe D’Expilly, and others, it appears, that in 1777, the agriculture of France was sufficient for the subsistence of its inhabitants, and had a surplus to spare; (12) and though it be universally admitted that her condition in this respect, is not less prosperous *now* than it was *then*, (13) still it cannot be dissembled that her husbandry has many defects.

(10) Le Borde’s *Heneraire D’Espagne*, vol. i.

(11) See *Geographie*, &c. vol. vi. Article *France*, p. 13, and Young’s tour through France.

(12) The products of agricultural labour, were, in these tables, stated at 114,552,000 L. T. Those of manufacturing labour at 128,015,000.

(13) The effects of the revolution of 1789 on agriculture are no longer doubtful. The suppression of *tythes*—of the *exclusive privilege*—of the *chace*—of every species of *corvee* (labour per-

1. A supposed resemblance between the earth and animals, gave rise to *fallows*; because men and horses required repose after labour, it was supposed that after *cropping*, the earth also required it. Faithful to this absurd analogy, the French landlord binds down his tenant by lease, not to crop the soil more than *three years in four*, which in effect is to consign to barrenness or weeds, one fourth of the whole arable land of France, yearly!

2. There is not a sufficiently fixed, or steady proportion, between *arable* and *pasture* land. The production of grain is the great object of culture—often with too little regard to the nature of the soil, and generally without any of its improvement. “Where pasturage is scanty, where natural meadows are bad, where artificial are rare, and root husbandry little extended, cattle cannot be either numerous or well conditioned; and as without these there can be no manure, so without manure, there can be no abundance.” (14)

3. The land is generally worked by *farmers*, hired for that purpose, or by *renters on short leases*; which in neither case betters the condition of the soil; the one having no interest in improvements, and the other too small a one to justify any expense in making them.

4. A good rotation system, adapted to the soil and climate, is not absolutely unknown, and may be found even in whole districts (as in French Flanders) but much too rarely. We have seen wheat and fallows alternately, for years; and wheat, rye, hemp, and rye, and many others equally ridiculous.

5. To the eye, more than one half of France is a common, without fences of any kind, excepting garden or park walls. Can there be order, economy, and security, under such circumstances? Can the *police* and *gens d’armes* be sufficient substitutes? [To be continued]

formed by tenants for landlords)—of *taxes* or *rents*, and of *rights of commonage*—were among these effects; and if to these we add the *division of the great landed estates of the nobility and clergy*, there can no longer be any scepticism on this point. No truth is better established, than the advantage of *small farms* over *great* as far as the *public* is concerned. The Roman *latifundia* (military grants) destroyed Roman agriculture.

(14) Herbins’ *Statistique Gen. de la France*, vol. i. introduc.

EARTH BURNING....No. 2.

From a Treatise on Soils and Manures.

It is obvious, that in all cases the process of burning, must destroy a certain quantity of vegetable matter; and it must principally be useful where an excess of this matter renders the soil too rank. It must be of eminent service in reducing to charcoal, or wood ashes, a great accumulation of woody fibre already overrunning the field; for woody fibre is very slowly reduced to the state of vegetable mould, if left to the process of a natural dissolution; nor is it very rapidly reduced by lime or other solvents artificially applied.

Burning likewise renders clay less coherent; and in this way greatly improves their texture,

and causes them to be more permeable to water,* and consequently, less retentive of it in stagnant masses. Another cause of the unproductiveness of cold, clayey adhesive soils, is, that the seed is coated with matter impenetrable to air.† When clayey or tenacious soils are burnt, their power or tendency to absorb water from the atmosphere is diminished in the proportion of 7 to 2;‡ and they are brought nearer to a state analogous to that of sands; the particles are less adhesive, and the mass less retentive of moisture. Thus the process of burning, properly applied, may convert a matter that was stiff, damp, and in consequence cold, into one powdery, dry and warm, altogether more fitly constituted as a bed for vegetable life. The great objection made by speculative chemistry to pairing and burning is, that the animal and vegetable matter in the soil is diminished. But where the texture of the earthy ingredients is permanently improved, there is more than a compensation. To meet the objection still more directly, where an excess of inert vegetable matter is present, the destruction of a part of it must be beneficial, and the carbonaceous matter in the ashes may be more useful to the crop, than the un-reduced vegetable fibre, of which it is the remains,§ could have been.

The most speedy way of bringing under tillage a meadow overrun with rushes, is, first to drain it, and then to pare off a thick turf and burn it.

The cases in which burning must incontestibly be prejudicial, are those of sandy, dry, flinty soils, containing little animal or vegetable matter: here it can only be destructive; for it decomposes that constituent, which is already below the minimum proportion, and on the presence of which, in a limited degree, the productiveness of a soil depends.

"Burning without fire." A new method has lately been discovered, for substituting quick lime for fire, and experiments made upon it before the Workington Agricultural Society gave general satisfaction. The lime in its most caustic state, fresh from the kiln, is laid upon the vegetable surface to be consumed; and before it is weakened by exposure to the air, water, just in sufficient quantity to put it powerfully into action, is applied. This fierce compound will not only consume the vegetable covering, but affects the clay, or upper stratum, as if it had been in contact with fire. It supersedes the trouble which has hitherto attended burning, and in respect to poor soils which would be improved by the two distinct operations of burning and liming, in the common modes, it bids fair to bring them sooner on a par with those of a superior quality.

* Elements of Agricultural Chemistry.

† Ibid. ‡ Ibid. § Ibid.

LAWLER WHEAT.

TO THE EDITOR,

dated—Wye House, July 19th, 1819.

Dear Sir,

I avail myself with much pleasure of the first leisure to answer your favour respecting Lawler Wheat. This wheat has been seeded by myself

and a few of my neighbours for the two last years, a period *perhaps* not sufficiently long to test *conclusively* its character, in as much as a contrariety of opinion exists amongst those, who have grown it. This in some degree may be the result of prejudice, and failures may have occurred from many causes, not fairly chargeable to the wheat; the latter I am inclined to believe, in many instances, the fact; for where I have seeded it, under favourable circumstances, the result has been satisfactory. In the fall of 1817, I seeded the Lawler Wheat, on several farms, on corn ground and clover lay, on poor and rich land, and to test its qualities, sowed what is called here, the old Virginia white wheat, adjoining it, even in the same *corn land*. The white wheat, generally with me was that season very much injured by spring fly. The Lawler only in one instance, on rather a light piece of land which had been in corn, and then I judged the crop to have been lessened one half; the Virginia white wheat adjoining it, and seeded the same day, did not produce the seed sown; from 23 acres of clover-lay sowed that year with Lawler Wheat, between the 28th September, and fifth of October, I made by actual measurement, (*not by estimation, which is too often the mode of ascertaining great crops*), 628 bushels, weighing 63 pounds. The result of 1817, induced me to seed nearly my whole crop with Lawler Wheat, in 1818. My harvest is secured, and a good one as to straw, in every instance, where the land was, as farmers term it, *in good heart*, good order, and seeded at a proper season. I have one field of 90 acres, which will produce, *estimating* from the straw about 20 bushels to the acre, but the wheat generally, has filled badly, in consequence of the dry weather. These are the facts resulting from two year's experience. Those who feel an interest will draw their own conclusion, but it may be necessary to add, that little injury was done by fly in my neighbourhood this season; it made its appearance early in May, in the Virginia white wheat, and some little in the Lawler wheat, but providentially neither were materially injured. The Lawler wheat in appearance, resembles the Virginia white wheat, but in my opinion it will not produce as well from the straw. The bars of wheat in the head are not as close, nor generally as well filled with grain, but that it possesses the quality of resisting the fly in a much greater degree than any other wheat known to us, is satisfactorily evinced by the experience of most of my neighbours and myself, for the last two years; what this quality is, yet remains conjectural. That its losing its lower blades, at an earlier period than other wheat, and consequently depriving the fly of the usual place of deposit and protection, as is supposed by some persons, I should, from my observations, pronounce erroneous; for although I have sometimes observed the lower blades to decline very early in the season, I do not consider it by any means a characteristic of the wheat. I have myself, formed no opinion on the subject, or even conjecture, which I deem worthy of communication. It is a few days later in ripening than the Virginia white wheat, provided the latter escapes the fly, but in 1818, the Lawler wheat ripened before the white wheat, in consequence of its being checked in the early spring

growth by fly. It resists frost, and branches as much as any wheat I have ever cultivated, and has weighed with me about three pounds per bushel more than the white wheat. It produces flour of the nicest quality, and will yield more fine flour in proportion to offal, than any wheat except the Virginia white, that we have ever grown. I would advise it to be sown, from the 20th September, to the 10th October, and on strong land, at the rate of from five to six pecks to the acre, and from good land, *unusual casualties* excepted, I should anticipate, with confidence, a saving crop, *in defiance of fly*.

It will at all times afford me much pleasure to make such communications for the Farmer, as my experience may warrant, my agricultural speculations must be reserved for the amusement of myself and a small circle of friends, but of these you will no doubt receive an *abundant crop*, and if you can succeed, *without giving offence*, in excluding from your now useful paper, the *vagaries of theorists* and agricultural empirics, you will deserve well of your country, and do honour to yourself; for unfortunately for the cause of agriculture, most publications on the subject, abound with the wild notions of scribblers, who are as ignorant in theory as deficient in practice, hence with those without experience, who read for the purpose of information, erroneous opinions are as apt to be formed as correct ones, and practices are often commenced in consequence; which eventuate in loss and disappointment. Permit me in conclusion to remark, that the FARMER, *so far*, is the best agricultural compilation, in my humble opinion, that I have ever seen, and deserves the patronage of the public. Truly yours,

EDWARD LLOYD.

Hints for American Tourists, in Foreign Countries.

The order given by the Secretary of the Treasury to our Consuls in foreign parts, to send home, when they can, all rare and valuable grain and grass seeds, manifests an interest in the cause of agriculture, which eminently entitles him to the thanks of the public. It is difficult to calculate the benefit which may be derived to our country, if the order should be executed in the spirit that dictated it. We trust it will be so executed. A great variety of seed, has already, as we notice, been received at New York, that great emporium of every thing which can enlighten, improve and adorn our rising country; but as no *funds* are appropriated for the purposes pointed out in the Secretary's instructions in this matter, they must necessarily fall far short of the full accomplishment of his wishes. While Congress and State authorities are providing for so many *corporate* and other interests, it is high time they had bestowed a little more attention on the immediate interests of agriculture, and of internal improvements in general. We should be glad to see the secretary of the navy follow the example of his colleague in the treasury department. Would he not do an act of signal service by issuing similar orders to the commanders of ALL OUR SHIPS ON FOREIGN STATIONS? Let them be requested to bring home the best individuals of rare families in the animal as well as vegetable kingdom. Indeed we have often thought it would result in great advantages, if the navy department could have the means of providing a *small select library*, for the use of all our men of war—to consist chiefly of voyages and *works on natural history*. The library being once furnished,

it might be added to the rank of the chaplain of pursers, who should be responsible for its safe keeping, and it might be perpetuated by a small proportionate contribution from each officer, according to his month's pay. But we merely throw out the idea at present, intending to enlarge on it hereafter.

Several of our officers and public functionaries abroad have manifested a very becoming and honourable zeal for procuring such things as might serve to give additional variety and profit to American Agriculture; and our object now is, to throw out hastily, some mere hints which may aid those who have it in their power to serve their country in this way.

These hints will consist chiefly of extracts to point out the best manner of preserving and transporting seeds, plants and quadrupeds, and the particulars which ought to be noted in relation to them, as connected with their natural history—and first as to *Seeds*.

In procuring the seeds of foreign plants, care should be taken that they are perfectly dry, they should be packed in coarse brown paper, with but few seeds in each parcel, and the different parcels stowed into small tin boxes or canisters, the lids or covers of which should be soldered or cemented on, the more effectually to avoid the attacks of insects, and to exclude the air; such kinds of seeds as are incased in hard shells, do not require these precautions but the less any of them are exposed to the air, the more probability there will be of their vegetating. Various experiments have been made of substances to pack seeds in, as Sugar, Raisins, enveloping the seeds in warm wax, packing them in cerate papers, &c.; but the grand secret is to procure them sound and dry, and to pack them in such a manner as to exclude fresh air, which eventually dries up their juices; and what is of equal consequence, is, that the seeds be planted as soon as each parcel is opened, as one hour's exposure is, in many cases, sufficient to destroy a whole package.

As we derive so much from vegetables, it behoves the traveller, and the philanthropist, to inquire and ascertain the properties of such as are in request in other countries, either for food or medicine, for the purpose of dying, or for mechanical or agricultural purposes; as practical information on these points may be of incalculable advantage.—In pursuing inquiries relative to grain, culinary or esculent vegetables, the times and seasons of planting, sowing and reaping, should be carefully ascertained, as from the want of information of this kind, we frequently lose the advantage that might otherwise accrue from the introduction of exotic plants. The particular soils and kinds of manure suitable or favourable to their increase, should also be noticed; as likewise what animals are particularly injurious to the crops, and what modes are adopted to prevent or repel their attacks.

The agricultural operations, of foreign countries, well merit the particular attention of the traveller, both with respect to the subjects cultivated, and to the purposes to which they are applicable; the quantities of seed apportioned to an acre of ground; the modes of sowing it; the average number of hands employed on any given quantity of land; the modes of weeding or cleaning the crops; of ploughing, harrowing, irrigating, scarrifying, and paring land, should likewise be ascertained; as also the plans of mowing, reaping, or otherwise collecting and housing the

crops, with the particular methods practiced for thrashing or freeing the various seeds from their husks or chaff, or for preparing any vegetable substances for manufacture, as hemp, flax, cotton, &c. Answers to these queries will with great probability be attended with advantage. As the introduction of a vegetable, of equal value with the potato, would form an object of the highest national importance. Travellers cannot more essentially serve their country, than by ascertaining the kinds, and procuring seeds or plants of the various culinary or esculent vegetables, in use in other countries, as by their introduction, an addition will be made to our present stock of foodful plants, which is of far greater importance than the introduction of a whole forest of tropical flowers; which though beautiful, and highly interesting, are still of comparatively trifling value. Of the timber trees common to other countries, their size, growth, maturity, and durability, should be ascertained, with the purposes to which, from the texture of the wood, they are applicable; if for ship timber, for building for agricultural or domestic purposes; if capable of receiving a fine polish, or likely to be of use for the purpose of inlaying; if any dye is afforded; if the wood or bark is applied medicinally, and if so, how prepared, and administered; if they produce nuts or seeds, useable as food, or for the purpose of extracting oil; if the husk like that of the cocoa nut, is used for domestic purposes; whether pitch, tar, turpentine, resin, or gums of any kind are naturally produced, or extracted; if they afford sugar, or from any natural or artificially caused exudation, a vinous or spiritous extract is afforded; numerous other queries of this nature will probably arise in the mind of the observing Naturalist, which he will do well to have resolved, enough having been said in this place, to turn his attention to these subjects.

As a considerable difficulty arises in determining the particular species of Tree, without specimens of the wood, (we do not mean botanically) small pieces should be obtained, cut to one size, say six inches long, by three wide and thick, these being all of equal dimensions, will conveniently pack and be of sufficient magnitude to ascertain their qualities, particularly the ornamental kinds; when obtained, they should be suffered to dry gradually, and when perfectly so, may be coated over with varnish, which will mostly repel the attacks of insects.

Plants of peculiar interests, that are destined to be sent from abroad, should be chosen of small stature, in good health, and if practicable, should be inured to a greater variety of temperature, than in their natural state they are exposed to; these should be taken up with a ball of earth adhering to their roots and the ball enveloped in a thick coat of moss which should be tied over with pack-thread, or matting, as represented by the subjoined engraving; they may then be placed in a case of cut moss, this should be packed closely round the balls of earth, and covered over the tops of the roots two or three inches deep; the surface of the moss should be netted over with stout string or cord; the case may be placed on the deck of the vessel, in as airy a situation as possible, but where it is not likely to be splashed with the spray of the sea, as this, if it falls on the leaves or stems of the plants, is re-

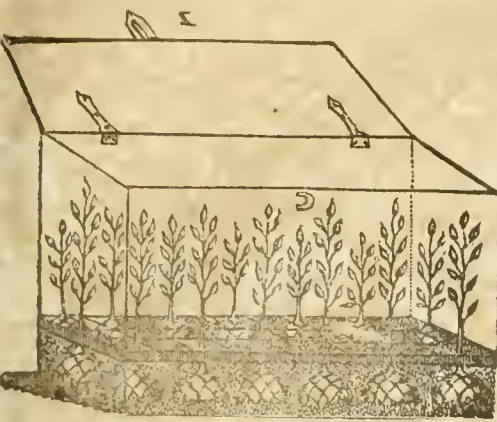
injuriously, from the salts crystalizing in dry weather, and in the damp weather being decomposed by the humidity of the atmosphere: the case should have the two ends open, and covered with wire or strong netting, which as occasion requires, may be further sheltered by pieces of boards or canvas; the lid of the case should be made to shut like that of a common box; which in heavy rains, will prevent the plants from receiving a superabundance of water, and in dry, warm weather, will admit a large portion of air. As it is not at all times practicable, to get cases made in the form above recommended, a cask may easily be converted into a proper form for the conveyance of living plants.

In making drawings or descriptions of plants, the following particulars should be most carefully attended to. The form of the root, as fibrous, bulbous, tuberous, granulated or spindle shaped; the form of the stems or trunks of Trees; of the stalks in herbaceous or shrubby plants; if they be simple or branched; smooth, woolly, or hairy; if the hairs incline upwards or downward; the shape and texture of the leaves, whether sessile, or furnished with foot stalks, whether they be simple or compound; if flat, cylindrical, concave, convex, smooth, rough, hairy, woolly, spinous, or furnished with tubular spines by which a poisonous fluid is discharged, as in the common Nettle; if the edges are entire or serrated, if surrounded by a margin; the position they grew in, should likewise be noticed, whether from the crown of the root, or from the trunk, stems, or stalks; if they grow singly or in pairs, threes, &c. or in whorls; their relative position one to another if opposite, alternate, or irregular; these particulars merit the closest attention, as they are those which often afford the best specific characters; if they be any Bractææ or flora leaves, if these differ in form or colour from the other leaves; the form, duration, texture, or absence of the Calix; as also the same particulars relative to the petals in the Corolla; the number, situation and form of the Stamens, Pistiles, Seed Vessel, and Seed; by attending to these much useful information, will naturally accrue, and the dissemination of the particular structure of the parts common to each plant, as growing in its native or wild state, will tend greatly to the removal of difficulties, with which many exotic species are encumbered.

The Philosophy of Botany, like that of every other branch of Natural History, does not consist in forming extensive collections, or in acquiring a scientific acquaintance with the nomenclature of the various species; but in ascertaining their uses, qualities, and relations as respects other subjects, and their own peculiar economy and history; it is these particulars that give interest to this and every other science, and are those that a true naturalist will ever have in view; in contemplating the varied productions of the fields or gardens, he will find nothing cloying, nothing affecting his passions, or causing those unpleasant feelings so often excited by the works of art, for truly, as Lord Bacon observed, "a garden is the purest of all human pleasures;" the wonderful variety evident in the botanical creation, in form, structure, colour, and economy, their powers of secretion of matter totally different from that from which they draw their nutriment; as sugars, salts, acids, bitters, &c. are all objects of admira-

tion, and powerfully bespeak the wisdom and providence of their all-wise Creator.

We annex the sketch of a Botanical register, of such particulars as should in all possible cases be obtained; we have done this without reference to any known species; but merely that the various particulars relative to the use to which different species are applicable, may not be omitted.



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Ascertained by actual sales, within the last week.

LIVE STOCK.

Mr. Rusk purchased last week, two lots of spotted cattle, 20 each, from the South Branch of

Potomac, for \$8 50 per cwt. picked from droves of 35 to 36.

Tobacco—A few hlds. Richmond, good quality, sold last week, by J. P. Pleasants & Son, for \$6 50; about 13 hlds. sold also, by Wm. McDonald & Son, for the same price.

Two crops of best quality, from near Benedict and Charlotte-Hall, in this state, sold on Wednesday, for \$10 and 12; corn, 60 to 62 1-2 cts. scarce; oats, 45 to 50 cts.; rye, 62 1-2 cts.; red wheat, \$1 10 to 1 12 1-2. This season is said to have been very prolific in garlic; by which the price of new crops is much affected; different parcels of the same cargo, have sold at various prices, from \$1 06 to 1 12, according as they were more or less exempt from garlic. Some parcels have come up so full of it that they would not sell at all. The neat, well managing farmer, who takes the pains to clear his wheat of garlic, ought to be mindful, not to send it to market in bad company. White wheat, fit for baker's or family flour, \$1 20; wool cards, No. 5, 50 cts. per pair; No. 6, 62 1-2 cts.; cotton cards, 75 cts. Hay, \$16 to 17. Straw, \$12 to 13. Bacon, the hog round, 12 to 13 cts. Butcher's beef, best pieces, 10 to 12 1-2 cts. Chickens, per dozen, \$2 50 to \$3. Veal, 10 to 12 cts. Mutton, 6 to 8 cts. Salt beef, prime pieces, 10 cts. Pork, 8 to 10 cts. Eggs, per dozen, 25 cts. Potatoes, new crop, 37 to 50 cts. per peck. Butter, per lb. 30 to 37 cts. Connecticut cheese, best quality, from the boats, 10 cts.

retail. Herrings, retail, per bbl. \$3; quantity, \$2 75; do. do. No. 2, \$2 50 to 2 25. Shad, untrimmed, per bbl. retail, \$6 50. Tar, per bbl. by the cargo, \$1 50. Rosin, \$2. Pitch, \$2 75 cts. scarce. Susquehanna pork first quality, retail, \$16. Boston beef, No. 2, \$2. North Carolina bundle shingles, the run and average quality, \$4 to 4 50 per M. Currituck, do. from \$6 to 8, according to the width.

If any of his subscribers would like to have any other articles reported, the Editor of the *American Farmer*, will thank them to let him know.

FROM THE ALEXANDRIA TELESCOPE.

Molly O'Shea.

ON the moor round the cot of my fathers I roam,
When the last beam of day-light is quenched in the sea,
And I hie to my dear little cabin at home,
Once the cabin of pleasure to Molly and me.
The red-tinted cloud in the evening sky,
Blushes bright as it hies from the court of the day;
But all its soft sun-painted hues cannot vie
With the bloom that once glow'd on sweet Molly O'Shea.
But the wind of the winter has blighted my flower,
And shaken my bud from its fostering tree,
And now the straw cabin, and green sunny bower,
Have lost all their fondest endearments to me.
Then I will away to her rose planted grave,
When twilight has fluttered unnoticed away,
And long the dear shamrock of Erin shall wave,
On the green turf that covers sweet Molly O'Shea.
MONTALDO.

1819

MEMORANDUM.

We found a species of evergreen oak in abundance, growing on the sides of most of the hills. It seldom exceeds ten or twelve feet in height, and four inches in girth at the base of the trunk; the leaves were thickly beset with small red galls, each of which contained several small insects; the galls seemed from their astringent taste, likely to answer the purpose of common oak galls, as, though very small they are produced in great abundance. The acorns scarcely exceed a horse bean in size, and grow in clusters; the natives burn the small twigs and leaves, which diffuse a very agreeable scent while burning; the wood is hard and beautifully veined, and though of a small size, it is well calculated for the purpose of veneering. Specimen of the wood in case A No. 146.

	May 26	July 2	Aug.	29	Specimens of the wood, case B No. 29.
	A very elegant tree grew on all the hills, which we found much frequented by squirrels, and other small quadrupeds.	The wood seemed likely to be valuable for buildings, and domestic purposes; as it was hard, close grained and light.	It produces a small nut, enclosed in a hard shell, from which an oil is expressed, for the purpose of burning, the kernel is sweet and is eaten by the natives.	Grows most luxuriantly, in a dry, gravelly loam; such as grew near the sea, were much stunted, their fruit was harder, and the husks produced less oil.	The natives use the smaller branches for fuel, but the trunks of the full grown trees they frequently hollow out for the purpose of canoes, these they cover with skins, and smear over with the oil which they obtain from the nuts.

After the dry season had passed, the rapidity with which vegetation advanced, was almost beyond belief; spots, which only two or three days before, were like dry, barren heaths, were now covered with a beautiful verdure, and within a week of the first rains, numerous species of flowers were in bloom, where ten days before not a solitary leaf was to be seen. In our walks at this time we met with a great variety of Orchideous plants, the roots of which were either palmated or bulbous, and possessed the flavour common to the European bulbous rooted kinds.

	May 26	July 2	Aug.	29	Seed in case iv. No. 19; case xi. No. 25; and case xix. No. 224.
	We met with a grass of the most luxuriant foliage; its taste was sweet, the leaves tender and juicy, and seeming admirably calculated for agricultural purposes.	It grows to the height of three to four feet with abundance of leaves at the root and on the stem; numerous herds of Buffaloes, Deer, and other animals, resort to the places where it abounds, these all avoid eating the stems.	The natives generally when on their journeys, erect their huts where this grass is in abundance, as it supplies their cattle with plentifully; they boil the stems and when the liquor is cold, pour it off, it having acquired a sweetish taste, and it is the only prepared drink we ever saw them use.	In hilly districts, low marshes, valleys that are often overflowed, and on mountains that are quite destitute of water, this grass is to be found, it is less luxuriant in the latter places, but it is generally dispersed.	It produces abundance of seed, and also grows readily from parings of the roots.

THE FARMER.

BALTIMORE, FRIDAY, JULY 30, 1819.

NOTICE TO SUBSCRIBERS.

Those persons who receive this paper in lieu of the *Maryland Censor*, are again reminded, that unless all arrears are paid up prior to the 19th day of August next, the *American Farmer* will be discontinued on that day—and the accounts put into the hands of Agents to collect. The Editor offers, however, to give a receipt in full of all demands, to those who have not paid, provided they will return to him, in good order, all the numbers they have received of the *American Farmer*.

Those who have paid for the *Censor*, are notified, that if they wish to have the *Farmer* continued, it will be necessary to pay the half year at least, that is \$2 in advance, before their present year's subscription expires.

The *American Farmer* is invariably paid for in advance; nor will its present Editor continue it for one day on any other principle. He devotes all the leisure time he can rightfully gain from paramount official duties, to make the *Farmer* worthy of public encouragement, and if any subscriber has been disappointed in his expectations as to the value of the work, the Editor once more offers to receive his file and pay back his money. Here again the request is repeated that if any subscriber shall not have received any particular number, he will make it known, and he shall be forthwith supplied.

LAWLER WHEAT.

On most agricultural subjects, particularly the cultivation of small grain, few persons have it in their power to speak with more confidence and accuracy than Col. LLOYD. For, to say nothing of his well known personal industry, and his habit of minute observation the immense extent of his possessions throws open a boundless field for experiment. His usual crop of grain per ano. is upwards of 20,000 bushels. Knowing that he had made some specific trials of the Lawler wheat, of which so much was said a few years since in the papers, we solicited the favour of him to inform us what he had observed respecting it; his politeness has enabled us to lay before the readers of the *American Farmer*, his letter, which may be considered conclusive as to its properties at least, in relation to this district of country.

CHILE WHEAT.

We hope in a short time to gather, from various gentlemen, the result of experiments made with small samples of the CHILE WHEAT. It has been noticed by a farmer in Virginia, in very favourable terms—he seems to consider it a very valuable acquisition to our stock of small grain; but as far as we have heard or seen the fruit of small quantities sowed in this neighbourhood, the result is not so encouraging. It seems to have lost its colour, and the grains are not so plump, and thoroughly filled, as the original stock.

The very late period at which it was sowed, and the dry weather, about the time of ripening, have been unfavourable to a fair development of its properties. In the extraordinary thickness and solidity of the stalk, it is very remarkable, giving it, perhaps, the power of more effectually resisting the attacks of the fly. The shape of the head is altogether sin-

gular, but we forbear to express an opinion prematurely as to its qualities.

From the *American Watchman*.

MR. PRINTER, I make no doubt but the charitable and humane object, which the writer hereof has in view will induce you to give the following an insertion in your valuable paper:

I have a child, two years and six months old, who has been in a very uncommon degree afflicted with the bowel or summer complaint; and after trying in vain the various prescriptions of the physicians, I was advised by an old lady, my neighbour, to try a tea, made of the inner rind, or bark of the black oak; which was administered to the child in the quantity of a table spoon full three times a day; and which has performed a perfect cure in three days. I recommend it to mothers to do likewise. Respectfully,
A MOTHER.

N B. The tea should be sweetened with a little sugar.

We have been confidently assured from the most respectable source, and desired to publish the fact, that what is called the *summer complaint*, may be cured with *gun powder*—a tea-spoonful pulverized, and taken with a little water.—*Ed. Am. Farmer*.

To Southern Millers.

MR. EDITOR—I have heard much of the rapid grinding of mills at the South, and should be pleased to state, through the medium of your paper, that I can grind 100 bushels of wheat well, in 12 hours, with Town's Patent Water Wheel, carrying one pair light four foot stones, with one foot water under seven foot head. Will any Southern mill owner inform me how much better he can do?

A VERMONT MILLER.

Boston Palladium.

We understand, that thirty bags of *saintfoin*, (holy hay) seed, have just arrived in this market from France.

DIED.

At Eddyville, Ky. June 23d, 1819 of a pulmonary complaint, contracted on the Canadian frontiers, Dr. HENRY SKINNER, late a surgeon in the army of the U. States, in the 34th year of his age. His loss is much regretted by his friends and acquaintances not only on account of his skill and usefulness as a medical character but on account of his patriotism, his urbanity and manly virtues. He was the companion of the gallant Croghan in the memorable defence of Fort Stephens, at Lower Sandusky. He has left a disconsolate widow and two children, and a host of relatives and friends to mourn his early death.
Kentucky Reporter.

[Dr. SKINNER was a native of Calvert county, in Maryland—eldest son of the late Frederick Skinner, and eldest brother of the Post Master of Baltimore. He studied physic under the late Dr. John Crawford, and it is no small compliment to say, what may be said with truth, that in a spirit of universal philanthropy and benevolence of heart, he resembled his worthy preceptor.

He maintained through life, a course of unspotted honour and integrity; and the writer of this, who knew him thoroughly, takes consolation from the reflection, that he died with that fearless composure and dignity, which may be expected from those, who in their last hour, feel that their part, whether humble or exalted, has been well performed, and that they can be reproached with nothing which can dishonour their name, their friends or their country.]

THE WIFE.

In giving our readers the exquisitely fine picture of "A WIFE," from the first number of GEORGE CRAYTON, a new work by Mr. ERVING, we are perhaps taking an unwarrantable liberty with the holder of the copy right. It is, however, apprehended, that it may serve to aid, rather than circumscribe the circulation of the work, otherwise we should not have taken the freedom to copy so largely from it, much as we are pleased to hold up

so beautiful a model to our fair country women. There are no individuals in the whole circle of society, to whom the hardness of the times makes a more forceable appeal, than to the wives of our bosoms, the mothers of our children, our partners in difficulties and privations.—It is in their fortitude and resignation, in a great degree, that the husband must look for consolation and support.

ACCOUNT OF TOPHAM, THE STRONG MAN.

From the *British Review*.

We learn from private accounts, well attested, that Thomas Topham, a man who kept a public house at Islington, performed surprising feats of strength; as breaking a broomstick of the first magnitude, by striking it against his bare arm; lifting two hogheads of water: heaving his horse over the turnpike gate; carrying the beam of a house as the soldier does his firelock, &c. But, however, belief might stagger, she soon recovered herself, when this second Sampson appeared at Derby, as a performer in public, at a shilling each. Upon application to Alderman Cooper, for leave to exhibit, the magistrate was surprised at the feats he proposed; and as his appearance was like that of other men, he requested him to strip, that he might examine whether he was made like them; but he was found to be extremely muscular. What were hollows under the arms and hams of others, were filled with ligaments in him.

He appeared near five feet ten, turned of thirty, well made, but nothing singular; he walked with a small limp. He had formerly laid a wager, the usual decider of disputes, that three horses could not draw him from a post which he should clasp with his feet; but the driver giving them a sudden lash turned them aside, and the unexpected jerk had broke his thigh.

The performances of this wonderful man, in whom were united the strength of twelve, were rolling up a pewter dish of seven pounds, as a man rolls up a sheet of paper—holding a pewter quart at arm's length, and squeezing the sides together like an egg-shell—lifting two hundred with his little finger, and moving it gently over his head. The bodies he touched seemed to have lost their gravitation. He also broke a rope fastened to the floor, that would sustain twenty hundred weight—lifted an oak table six feet long with his teeth, though half a hundred weight was hung to the extremity; a piece of leather was fixed at one end for his teeth to hold, two of the feet stood upon his knees, and he raised the end with the weight higher than that in his mouth—he took Mr. Chambers, vicar of all saints, who weighed 27 stone, and raised him with one hand—his head being laid on one chair, and his feet on another; four people, 14 stone each, sat upon his body, which he heaved at pleasure—he struck a round bar of iron, one inch diameter, against his naked arm, and at one stroke bent it like a bow. Weakness and feeling seemed fled together.

Being a master of music, he entertained the company with *Mad Tom*. I heard him sing a solo to the organ in St. Warburgh's Church then the only one in Derby; but though he might perform with judgment, yet the voice, more terrible than sweet, scarcely seemed human. Though of a pacific temper, and with the appearance of a gentleman, yet he was liable to the insults of the rude. The hostler at the Virgin inn, where he resided, having given him disgust, he took one of the kitchen spits from the mantelpiece, and bent it round his neck like a handkerchief; but as he did not choose to tuck the end in the hostler's bosom, the cumbersome ornament excited the laugh of the company. till he condescended to untie his iron cravat. Had he not abounded with good-nature, the men might have been in fear for the safety of their persons, and the women for that of their powder shelves, as he could instantly roll up both.—One blow with his fist would for ever have silenced those heroes of the bear-garden, Johnson and Mendoza.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nummum sua si bona norunt
"Virgolas." . . . Virg.

VOL. I.

BALTIMORE, FRIDAY, August 6, 1849.

NUM. 19.

AGRICULTURE.

Hints to Dairy Farmers:

BEING AN ACCOUNT OF THE FOOD AND PRODUCE OF A COW.

Published by order of the English Board of Agriculture.

The last number of this paper contained some valuable observations on the construction and management of the Dairy.

If this subject were not imperfectly understood and its advantages erroneously appreciated the neighbourhood of this, and all our large cities, particularly southern ones, would abound more than they now do, in small, rich, productive dairy farms.

The advantages of land, near a large city, may perhaps be turned to greater account, and enjoyed in a higher degree, by the cultivation of artificial grasses and the making of butter, than, perhaps, by any other mode in which capital, invested in real estate, can be employed.

He who lays himself out for bringing these productions to market, has no rivalry to encounter from a distance. Hay is too bulky to be conveniently transported by water, or sent a great distance by land, and there are some decided advantages in favour of making the hay into butter. The cow may be viewed as a machine, the hay be reckoned as the raw material, and the butter as the manufacture, of great and constant demand. But, in truth, the selling of hay and butter are not incompatible.

The proprietor of a very small farm near town, if he manage with industry and skill, will provide, in the first place an abundant supply of winter food; and, keeping as many cows as convenient, the surplus of artificial grass, not eaten and converted into butter by them, may be thrown into the town market. Besides the healthiness, and the pleasure of a rural system, whereof the dairy is the chief object; it is attended with one eminent superiority, that must at once strike the mind of the reflecting inquirer. He must perceive, that the moment his money is invested in cow stock, it begins to yield an immediate interest, by its double return of butter for the market, and manure for the land.

On small dairy farms at least, if not on all others, the cows should be watered in the yard, if possible; and there kept up and fed, frequently, and in small parcels. They may be then conveniently milked, three times a day, and near the milk house, as they always ought to be; the manure heap will be thus incessantly accumulating. But these points alone would justify an essay of our columns, if we had room and leisure to pursue the train of reflection through which a little consideration would conduct; whereas, our particular object now is, to introduce to our readers the following—HINTS TO DAIRY FARMERS, being an account of the Food and Produce of a Cow, authenticated and published by order of the BOARD OF AGRICULTURE OF LONDON, in 1811."

Ed. A. Farmer.

ADVERTISEMENT.

The management of Cows, recommended and practised by Mr. CRAMP, of Lewes in Sussex, has been attended with such uncommon success as to justify a more general attention than has hitherto been paid to it; and for the purpose of spreading a knowledge of the practice, it was resolved to print the information transmitted by Mr. CRAMP, in such a form as may reasonably be expected to be read by many persons unaccustomed to expensive works. The communications to the Board of Agriculture, in which these Reports of Mr. CRAMP have hitherto been printed, are intended as a repository for the preservation of important papers; but it has become too expensive for the generality of farmers to purchase, however desirous they might be of consulting it; the Board has therefore ordered these Papers to be collected in one cheap publication.

As the world is apt, when any thing extraordinary comes before it, to doubt the authenticity of facts, it is proper to state, the steps that were taken in order to ascertain the accuracy of these Reports; this could be done only by application to such persons as know Mr. CRAMP, and have not had sufficient opportunities, not only of becoming acquainted with his personal character, but also of observing the management of his Cow. With this intention the Board applied to the Earl of Chichester, who acts as Magistrate for Sussex, which has given him repeated opportunities of remarking Mr. CRAMP's conduct, as a Keeper of the House of Correction at Lewes. His Lordship considers him as one of the most careful and accurate of men, and who has performed the duties of that difficult office with singular reputation and applause; and in regard to the Cow Reports, his Lordship does not entertain the smallest doubt of their accuracy, an opinion which induced him originally to recommend Mr. CRAMP to the attention of the Board. Mr. JOHN ELLMAN, of Glynd, who resides within two miles of Lewes, has known Mr. CRAMP for many years; has seen every particular of his management many times; speaks of him in terms of high approbation, and as one whose character stands much too fair, to permit the

smallest suspicion of any deception, and too careful in every part of his conduct, to render any inaccuracy probable. Other persons who have viewed the House of Correction and the Cow, have been equally disposed to credit these accounts.

The method of feeding described in these Papers, and the great attention paid to the act of milking, merit universal imitation; and notwithstanding the difficulty which may be found in many places, of procuring grains, yet it is to be remembered, that Mr. CRAMP has pointed out substitutes for that species of food, which, in his opinion, would be equally productive of milk, though beyond his power of acquiring them in so peculiar a situation as his.

Without supposing, that all the Cows in the kingdom could possibly be managed with the attention here described, yet it is fair to conceive, that on the principles herein laid down, a great improvement might every where take place; and as the system is founded upon a perpetual confinement of the cows, and consequently a perpetual increase of dung, the extension of the practice would not only cause a vast augmentation of dairy produce, but be felt also most essentially, in that of arable land, by the great increase of manure. In a word, the Board is extremely anxious that the practice here detailed, should be generally known, and they cannot but recommend to their members, to take every means of extending it; and should any experiments be made, and carefully registered, on this interesting object, the communication to the board will be thankfully received, and properly attended to.

PRODUCE OF A COW.—An account of the produce of Milk and Butter from a Cow, the property of William Cramp, of Lewes, in the County of Sussex, for one season, commencing the 1st day of May, 1805, [that being the day she calved] up to the 2d day of April, 1806, a space of 48 weeks and one day.

BUTTER.

No. of weeks.	Pounds per week.	Quantity of Butter.	Sold at per Pound.	Total value.
1	..	..	..	1 7 0
7	15	105	1s. 6d.	7 17 6
11	14	154	1 6	11 8 0
7	12	84	1 6	6 6 0
14	10	140	1 6	10 10 0
5	8	40	1 6	3 0 0
2	7	14	1 6	1 1 0
1	3	3	1 6	0 4 6
48	—	540	—	141 14 0
Deduct for butter sold in the month of August for 1s. 4d. per lb. only, for three weeks,				0 7 0
Carry forward.				141 7 0

Brought forward,	2.41 7 0
<i>Milk.</i>	
From Quarts per day.	Quarts.
8th May to 25th June,	20 980
26th June to 10th Sept.	18½ 1424
11th S. pt. to 29th Oct.	16 785
30th Oct. to 3d Feb. 1816,	12 1176
4th Feb. to 10th March,	11 385
11th March to 24th March,	9 126
25th March to 2d April,	5 45
	4921

The milk being measured when milked from the cow, there must be deducted for cream,	540
4381 quarts of skim-milk at 1d. per quart,	18 5 1
Made in the course of the season, four large wagon-loads of dung, thoroughly rotten, worth 15s. per load,	3 0 0
	62 12
	21 6 2

Total expense, as below,

Profit,

2.41 5 11

Expense.

Grains consumed the summer, 26 weeks, 3½ bushels per week, at 4d per bushel	1 10 4
Bran, 1½ bushel per week, at 8d per bushel,	1- 6 0
Winter 26 weeks, grains consumed, 8 bushels per week, at 6d per bushel,	5 4 0
Bran, 4 bushels per week, at 8d per bushel,	3 9 4
56 lb. of hay per week, at 5s 6d per cwt.	3 11 6
Rent of the land whereon were raised the lucern, clover, carrots, &c.	0 15 0
To the wages of a man at the rate of £52. per ann. supposing him to attend ten cows; one tenth is farrier, for three drinks at the time of calving,	5 4 0
	0 6 0
	2.21 6 2

The cow was fed with artificial grasses sown on the following plots of ground within the walls of the prison, containing, by measurement, as follows:

	R.	P.
No. 1. Sown with red clover and rye-grass	0	19
2. — with lucern,	0	2
3. — with rye-grass and white clover,	0	17
4. — with red and white clover,	0	18
5. — with lucern,	0	10½
6. — with carrots,	0	2½
	1	29

The above crops of lucern were cut four times, and the clover three times during the season, producing (each time) good crops. The cow not allowed to feed on the grass ground, but cut and given her in a rack in her novel, where she has a plot of about 18 square perches to range in.

I keep but this cow, nor have I had any other since I bought her. She is seven years old, and has had five calves; has been in my possession for two years.

Consumed much less food this year than the year before.

Food and Treatment.

Summer season fed on clover, rye-grass, lucern, and carrots, three or four times a day, and at noon time about four gallons of grains, and two of bran mixed together; always observing to give her no more food than she eats up clean. Winter season fed with hay, bran, and grains, mixed as before stated, feeding her often, viz. five or six times a day, as I see proper, giving her food when milking; keeping the manger clean when she is fed with grains; not to let it get sour; wash her udder at milking times with cold water, winter and summer. Never tie her up; lays in or out as she likes; particularly careful to milk her regularly and clean. Milch cows are often spoiled for want of patience at the latter end of milking them.

One man would attend ten cows through the year (with the exception of an assistant at milking times.) Feeding Milch Cows as above stated, they will at all times be in good condition fit for the butcher, if an accident should happen. There will be no ground trampled and food spoiled by cattle running over a vast tract of land. I think cattle may be fattened by the same mode of feeding with much advantage; one fourth part of the land would feed them, a great quantity of manure be made, and the beasts fatten sooner. Cattle so fed, have nothing to do but fill themselves and lie down to rest. *No labouring for their food.* I fattened the two cows I had before this, and made them very good meat in about seven weeks, (I found it to answer, although I bought the food at a dear rate,) giving them a little ground barley or oats mixed with the grains and bran. I think cows would nearly double (in the course of the season) their quantity of milk and butter by following the above plan. It is unnecessary for a cow to go dry long before she calves. The thing

will tell for itself. When her milk changes brackish, she should then be dried off; that, may be, in three, four, or five weeks before she calves, Milch Cows seldom go dry before, unless it is from neglect, poverty, sickness, or bad milking. Let the milk stand two days in summer, and three days in winter, before it is skimmed. I have stated no more than one penny per quart for skim milk, but I am informed, it sells in the town of Lewes, for three half pence, it being worth one penny to put in the hog tub. I fattened two hogs in the summer with no other food than skim milk and grams, making them very good meat, weighing 16 or 18 stone each, at 8lb. per stone. Where cows are kept in this way, hogs should be kept, as the milk will be (in the summer time) thick and sour, and fit for nothing else but hogs the people of this country making no use of it as food.

The following is the pedigree of the cow in question, which I received from Mr. Holman, a respectable Farmer at Bentley, in the County of Sussex

The cow belonging to Mr. Cramp, was bred by John Holman (my father) at Bentley, in Framfield in the county of Sussex, from a Sussex-bred cow also bred by John Holman, on the same farm; she was got by a bull bred by Mr. Colgate, at Hampstead-farm, in Framfield aforesaid; the father of which bull was also bred by Mr. Colgate, for which he obtained a prize-cup at Petworth, on the 20th day of November, 1796. She was calved in March 1799.

(Witness.)

THOMAS HOLMAN.

Lewes, March, 1806.

N. B. My cow calved 19th day of April; the calf is in very fair condition; the cow, having been dry for seventeen days only, was taken bad with the yellows at the very time of calving; but is now recovered, and going on very well. The calf sold at twelve days old, for 1l. 10s.

WILLIAM CRAMP,

Keeper of Lewes' House

Lewes, May 10th, 1806. of Correction.

The Second Year's Account, commencing the 19th Day of April, 1806, (that being the day on which she calved,) up to the 27th Day of Feb. 1807, a space of time of 45 weeks.

BUTTER.

No of Weeks.	Pounds per week.	Quantity of Butter.	Sold at per Pound.	Total Value
From the 19th of April to the 2d of May, } gave no milk but what the calf sucked, }	2	—	—	—
From the 3d May to the 23 May,	3	10	30 1s. 4d.	2 2 0
From the 24th May to the 6th June,	2	10½	21 1 4	1 8 0
From the 7th June to the 3d October,	17	12	204 1 5	14 9 0
From the 4th of October to the 12th Dec.	10	10½	105 1 6	7 17 6
From the 13th Dec. to the 6th February 1807,	8	9	72 1 6	5 8 0
From the 7th February to the 27th February } left off milking, }	3	6	18 1 6	1 7 0
	45	—	450	32 9 6
Carry forward,				32 9 6

Milk.	Quarts per day.	Quarts.
From 3d May to 23d May	12	252
25th May to 6th June,	14	196
7th June to 3d October,	16	1904
4th Oct. to 12th Dec.	14	980
13th Dec. to 6th Feb.	11	616
7th Feb. to 27th Feb.	9	189
		4137
The milk being measured when Milk ed from the cow, there must be ded- ucted for cream,		450
		3687

The Third Year's Account, commencing the 6th day of April, 1807, (that being the day she calved,) up to the 14th day of April, 1808. a space of time of 51 weeks and four days.

BUTTER.

	No. of weeks.	Pounds per week.	Quantity of Butter.	Sold at per pound	Total Value.
From the 6th day of April to the 20th April,	2	6	12	1s 6d	0 18 0
From the 21st April to the 1st June,	6	18	108	1 6	8 2 0
From the 2d June to the 5th October,	18	16	288	1 6	21 12 0
From the 6th October to the 30th Nov.	8	13	104	1 6	7 16 0
From the 1st Dec. to the 8th Feb. 1808,	10	11	110	1 6	8 5 0
From the 9th February to the 14th March,	5	8	40	1 6	3 0 0
From 15th March to 4th Feb. left off milking	2	1-2	5	1 6	0 19 6
	51	1-2	675		50 12 6

Deduct for 280 lbs. butter, sold at 1s. 4d. per pound only, - - - - -

Carry forward, - - - - -

Brought forward, 1.49 9 2

Qts. pr. day. Milk.

From 6th April to 20th April,	8	112
21st April to 1st June	22	924
2d June to 5th Oct.	20	2520
6th Oct. to the 30th Nov.	15	840
1st. Dec. to the 8th Feb.	13	910
9th Feb. to the 14th Mch,	10	350
15th Mch. to 4th April,	7	126

5782

The milk being measured when milked from the cow, there must be deducted for cream, } 675

5107 quarts of skim-milk, at 1d per quart, - - - - -

Value of dung made this season, 3 0 0

Sold my calf at 14 days old, for 2 12 6

Total expense, - - - - - 76 7 3

Profit, - - - - - 24 14 2

* Having been taken ill with the yellows at the time of her calving, she required the assistance of a farrier for three weeks. The complaint fell into the udder, and was, no doubt, the cause of her not giving so great a quantity of

3687 quarts of skim milk, at 1d per quart, comes to	15	7	3
Sold the calf for	1	10	0
Value of manure, 4 large wagon-loads,	3	0	0
	52	6	9
Total expense,	21	10	8
Profit,	30	16	1

Expense.

The same as in my last year's return, 21 6 2

* An additional expense for farriering, 0 4 6

1.21 10 8

On trial, I found malt dust to be serviceable to my cow, giving her about a double handful at a time, mixed with the grains and pollard. I would not recommend a greater quantity.

It may be complained by some, that they cannot get grains to feed their milch cows with; that difficulty can be removed by potatoes, as a substitute; grinding them in a common apple mill, or pounding them in a trough. Then mix the pollard with them, as recommended in my first report. Potatoes are a very fine food for milch cows.

My cow calved the 23d of April; has a very fine calf, is in good condition, and going on as well as usual.

WM. CRAMP.

Lewis, May 6, 1818.

(For Fourth Year's account, see page 148.)

Note.—There has been a doubt in the minds of some people, that I have overrated my skim milk, at one penny per quart. According to the price of food in this part of the country where I reside, I am still in the same opinion, that skim milk, at one penny per quart, is cheaper than any other food I can buy to feed my pigs, ground corn not being sold for some years past at less than 4s 6d or 5s per bushel, weighing about 36 lbs. When I oppose sixty quarts of milk to a bushel of such food, I am fully convinced it would do more than the bushel of corn. I do not hesitate to say, I think sixty quarts of skim milk equal to a bushel of such corn, if bought at 3s 6d per bushel.—No doubt, in that part of the country where corn can be bought for 2s or 2s 6d per bushel, skim milk would there be of less value; but I have stated my price suitable to that part of England where I am a resident. Gentlemen who live in Ireland, Scotland, Wales, and in the cheaper parts of England, will no doubt, think skim milk very dear at one penny per quart; I have seen it sold four quarts a penny in Ireland.

In managing Milch Cows after the manner I have described, difficulties may arise in the opinion of many people, but I think there are few difficulties but what might be remedied. If grains cannot be had, there is no land but will produce potatoes, and they are an excellent substitute for grains, pounded in a trough, or ground in a common apple mill, and then mixed with bran. Bran also would be a good substitute for grains, wetting it to the same state as grains, and then mix a little ground oats or malt dust to separate it. Milch cows may be fed with turnips and cabbages, provided proper attention be paid in doing it. One meal a day of turnips or cabbages, will not affect the milk, provided care be taken, and not give them any rotten or withered leaves. One rotten turnip or cabbage, would do more injury to milk and butter, than a cart load of sweet sound food. I have often given my Cow cabbage, without any ill effects whatever. I have sown rye, and tares, which I find to answer, they will come rather sooner than lucern, if sown the first week in September. One gallon of rye, is sufficient to mix with a bushel of tares. If the rye be sown too thick it will overpower the tares and injure them, but sown moderately thin, it will support the tares and keep them from the ground. I have sown oats and red clover, and cut the oats before they came out in ear; the oats will shoot up again, (if cut

milk as she did the season before. This complaint was very general amongst milch-cows that spring in this neighbourhood; many cows totally lost their milk, and some died of the disease. I have stated this, because many persons have asserted I ruined my cow's constitution by milking her so long; and that she would never be the same again. The produce of milk was not so much as last season; but I have no doubt, that this was in consequence of the complaint, and not from any other cause whatever. The produce of butter this season, proves her milk to have been equally as rich as it was the former season; the quantity of butter being in proportion to the quantity of milk. It will be observed that the first fortnight she gave no milk but what the calf sucked; and that she was not milked so long, by three weeks and one day, as she was the former season.

below they are in the full ear,) and the clover grow up with them, and produce a good second crop, the clover will be in full perfection the spring following. After the crop of rye and tares come off, lucern may be sown, and it will be fit to cut once the same summer, but no later than the middle of October. The lucern will be in full cultivation next summer, and will produce four cuttings the season. Lucern should be cut before it grows hard and sticky, or it admits waste, and it loses much of its goodness.

Dairies of any size could be managed after the manner which I have laid down, in most of its rules; a dairy of ten cows would require a plot of ground of about a quarter of an acre to range in: twenty cows, half or three quarters of an acre; and so in proportion to the number. No land but will grow artificial grasses, and vegetables; and, no doubt, it would answer even to cut the natural grasses and feed them. The object is the great saving, for less than half the land would maintain them. The cattle produce (in general) nearly double the quantity of milk and butter, and a great quantity of manure made. Where cattle are kept in this manner, the dung

should be gathered up every day and thrown in to a heap. The land to be cut should be that which lies nearest to the yard where the cattle are confined, in order to save carriage. Where Milch Cows are allowed to range abroad for their food, they will never produce that quantity of milk but they will when confined, let their food be ever so plenty; when they are not hungry, they will be searching after the sweetest spots of herbage and thereby deprive themselves of rest. Cattle, when handled, will seldom refuse any sort of food, if properly attended; and no part of this country need be at a loss for provisions to feed them. Where grains and pollard cannot be had, Milch Cows should have a little nice hay [not beaten] once a day, to keep them in a proper state otherwise all green food would make them too loose. Often changing food is good for Milch Cows. I seldom give my Cows two sorts of food following. I cannot be at a loss where there is so great a variety to be had, viz. rye and tares, lucern, cinquefoil, trefoil, cow grass, clovers, natural grass, green oats, carrots, cabbage, turnips, grains, bran, pollard, hay, &c.

The Fourth Year's Account, commencing the 23d Day of April, 1808, (that being the day she calved,) up to the 13th day of February, 1809, a space of time of 42 Weeks and three Days.

BUTTER.

	No. of weeks.	Pounds per Week.	Quantity of Butter.	Sold at per Pound.	Total Value.
From the 23d April to the 9th May,	2 1-2	2	5	1s 6d	0 7 6
From the 10th May to the 6th June,	4	15	60	1 6	4 10 0
From the 7th June to the 5th September,	13	14	182	1 6	13 13 0
From the 6th Sept. to the 7th November,	9	12	108	1 6	8 2 0
From the 8th Nov. to the 2d Jan. 1809,	8	10	80	1 6	6 0 0
From the 3d January to the 16th January,	2	7	14	1 6	1 1 0
From the 17th January to the 23d January,	1	6	6	1 6	0 9 0
From the 24th January to the 30th January,	1	5	5	1 6	0 7 6
From the 31st January to the 6th February,	1	4	4	1 6	0 6 0
From the 7th February to the 13th Feb. } left off milking, - - - }	1	2	2	1 6	0 3 0
Deduct for 80 lb. of butter, sold at 1s. 4d } per pound only, - - - }	42 1-2	—	466	—	34 19 0 0 14 0

Carry forward,

Brought forward, 1.34 5 0

Milk.

Quarts per day. Quarts.

From 23d April to 9th May,	3	51
10th May to 6th June	20	560
7th June to 5th Sept.	18	1638
6th Sept. to 7th Nov.	16	1008
8th Nov. to 2d Jan.	12	672
3d Jan. to 16th Jan.	9	126
17th Jan. to 23d Jan.	8	56
24th Jan. to 30th Jan.	7	49
31st Jan. to 6th Feb.	6	42
7th Feb. to 13th Feb. } left off milking, }	2 1-2	

The milk being measured when milked from the cow, there must be deducted for cream,

3753 quarts of skim-milk, at 1d. per

quart, - - - - - 15 12 9

Value of dung made this season, 3 0 0

Sold the calf at seventeen days old, for - - - - - 1 16 0

Expense as in my last year's report, 21 14 2

Profit,

1.29 19 1

17 The Dairy.—Without proper attention to this part much loss and damage would ensue. The vessels that keep the milk should be carefully attended to in cleaning; if the acid of the milk is not scalded out clean, it will do much injury to the fresh milk, and make the butter hot and bitter. I have my milk pans boiled two or three

hours; merely putting a little scalding water into a pan to clean it, is not sufficient, the acid of the milk will penetrate into the vessel, and cannot be got out by a little hot water. It is the opinion of many people, that if the cream is not taken off whilst the milk is sweet, the butter cannot be good. But I am convinced that is a very wrong notion; milk should stand as long as it is sound before it is skimmed, to make the most for butter. When cheese is made, it must be skimmed whilst it is sweet; but to say how long milk should stand before the cream be taken off, is not in my power; it depends much upon the weather, for that has the ruling of milk in a great measure. In cold weather, milk may stand three, four, five, or six days before it is skimmed; but in hot, close, or thundering weather, perhaps not twenty-four hours. The cream will keep best on the milk, as long as the milk is sound and will be adding in quantity; by milk being sound, I mean the cream should not be left on till the milk gets putrid; the cream will show that by changing spotty. The sooner cream is churned into butter after it is taken off the milk, the better: I churn twice a week with one cow. In summer, the churn should be made as cold as possible when the cream is put into to be churned, and in cold weather quite the contrary, by putting boiling water into the churn to make it warm. I believe most people wash their butter with plain water to get out the butter milk, but that will not answer so well as salt and water. If the butter milk is not got out clean, the butter will not keep many days good (as fresh butter) it will turn bitter and sour.

My Cow calved the 3d of April, has got two very fine calves, is in good condition, and promising to do equal to any former season. She is ten years old last March [now past,] and has been in my possession five years.

W. CRAMP.

Lewes, April 26, 1809.

(For Fifth Year's Account see page 149.)

The management of a large dairy, (after the plan which I have laid down,) may be attended to in most of its rules. Grains seem to be the greatest obstacle. I will suppose they are not to be had at all; seven months in the year they are not wanted, as every kind of artificial food can be had in great plenty, giving a little sweet hay once a day, to keep them in a regular state. In the winter time there may be provided turnips, cabbages, and potatoes, the two former will no ways affect the milk and butter, if given moderately twice a day: carefully avoiding giving them rotten and withered leaves, and giving them plenty of sweet green saved hay, they will, (no doubt) do much better than ranging abroad in the cold, hungry fields, labouring and fatiguing themselves for food, injuring the land, and thereby occasioning great loss of manure. About 30 acres of land* would be sufficient to produce food enough for 40 dairy cows (if properly managed,) including for hay; where, in the common mode of feeding, twice that number of acres would not do, and they would not produce above half the quantity of milk and butter. I think salting hay, when made into a rick for

* Something more or less: much depends on the quality of the land, and management.

milk cows, would answer a good purpose. It could be had reasonably, about 20 lbs. of hay, shaken regularly over every layer by the makers of the rick, would cause thirst, and thereby increase milk. The quantity of food milk cows will consume, is not easy to ascertain; they should have sufficient, but not to commit waste. Cattle should not be over-fed, so as to be surfeited; little at a time, and they will eat their food clean. I feed my cow six or seven times a day.

In my statement this season, I have given no account of milk further than up to the 7th May, although she was milked up to the day before she calved (*she would not go dry*;) but the milk being brackish, was fit for no use but the hogs. I do not perceive the least injury, she had sustained by it; her milk came with the calves, and as soon, and as plentiful, as if she had been dry for two months and her calves in good and healthy condition. She is now in as great perfection.

The Fifth Year's Account, commencing the 3d Day of April, 1809 (that being the Day she calved) up to the 8th Day of May, 1810, a space of time of 57 Weeks.

BUTTER.

	No. of Weeks.	Pounds per Week.	Quantity of Butter.	Sold at per Pound,	Total Value.
Two twin calves at 9 weeks old, sold for six guineas each.	9	—	—	—	12 12 0
From the 6th June to the 3d July,	4	17	68	1s 6d	5 2 0
From the 4th July to the 18th September,	11	16	176	1 6	13 4 0
From the 19th September to the 13th November,	8	14	112	1 6	8 8 0
From the 14th November to the 25th December,	6	12	72	1 6	5 8 0
From the 26th December to the 26th February, 1810,	9	10	90	1 6	6 15 0
From the 27th February to the 23d April,	8	8	64	1 6	4 16 6
From the 24th of April to the 30th April,	1	7	7	1 6	0 10 6
From the 1st May to the 7th May, left off milking,	1	5	5	1 6	0 7 6
	57	—	594	—	57 3 0

Carry forward,	—	—	—	—	1.57 3 0
Brought forward,	1.57	3	0	—	—
<i>Milk.</i>					
<i>Quarts p. day.</i>					
From 6th June to 3d July,	24	672			
To the 18th September,	22	1694			
To 13th November,	18	1008			
To 25th December,	14	588			
To 26th Feb. 1810,	12	756			
To 23d April,	10	560			
To 30th April,	8	56			
To 7th May,	5	35			

The milk being measured when milked from the cow, there must be deducted for cream 594

Total, 4775
75 quarts of skim-milk, at 1d. per quart, 19 17 11

Value of new milk, exclusive of what the calves sucked.

From 3d April to 9th April, 10 quarts per day—70
quarts, at 3d per quart, 0 17 6

tion for the dairy as in any former season. It will be observed, my Cow produced a greater quantity of milk this season than any former one, but not a greater quantity of butter; that I cannot account for; it may be, the having twins; nature ordered it so, that they might be sufficiently supplied. It will be also observed, she produced a great quantity of milk, besides what the calves sucked; and why not make butter? The trial was made, but in vain! the cream produced was small in quantity, and poor; and every trial made to make it into butter, for many hours, was to no purpose. This strange circumstance I am quite at a loss to account for, as I always milked her myself, sometimes before the calves, and at other times after, but the milk I got, produced no cream sufficient in quality to make butter.—*Query.* Could the cow have a power of withholding the cream part of her milk from me; or could the calves have an art of sucking it?

milk became perfectly sweet and good for a week before she calved, and fit for any use whatever; a very clear proof of the high perfection she was in; and since I parted with the calf, I have made 16lbs. of butter per week, and am now in the act of doing so. For my part, I require no other proof than what I have experienced, to convince me of the great advantage of feeding cattle after the plan I have laid down. Masters and mistresses who undertake to do their own work, will soon find the advantage arising from this mode of treatment; and if put into the hands of servants, there is no difficulty whatever,—a simple person may perform all, with the attention of their master and mistress in the beginning, to convince them of the truth.—There is generally some trouble in learning any new mode that is a public benefit, and likewise in laying aside an old one, let it be ever so bad.

WILLIAM CRAMP,

Keeper of Lewes House of Correction.
Lewes, June 20, 1811.

For these Accounts, the Board of Agriculture voted Mr. CRAMP their *Honorary Silver Medal*.

The Sixth Year's Account, commencing the 30th day of May, 1810, [that being the day she calved] up to the 20th day of March, 1811, a space of time of 42 weeks and one day.

BUTTER.

From the 30th May to the 19th June,	3	—	—	—	—
From the 20th June to the 4th Sept.	11	16	176	1 6	13 4 0
From the 5th Sept. to the 14th Nov.	10	14	140	1 6	8 8 0
From the 15th Nov. to the 12th Dec.	4	12	48	1 6	5 8 0
From the 13th Dec. to the 9th Jan. 1811,	4	10	40	1 6	6 15 0
From the 10th Jan. to the 30th Jan.	3	9	27	1 6	4 16 6
From the 31st Jan. to the 20th Feb.	3	6	18	1 6	0 10 6
From the 21st Feb. to the 20th March,	4	5	12	1 6	0 7 6

	No. of weeks.	Pounds per Week,	Quantity of Butter.	Sold at per Pound	Total Value.
Carry forward,	42	—	—	—	—
	4	5	12	1 6	0 7 6
	3	6	18	1 6	0 10 6
	3	9	27	1 6	4 16 6
	4	10	40	1 6	6 15 0
	4	12	48	1 6	5 8 0
	10	14	140	1 6	8 8 0
	11	16	176	1 6	13 4 0
	3	8	24	1s 6d	4 11 0
	—	—	—	—	—
Carry forward,	42	—	—	—	—
	42	56	485	—	236 7 6

Brought up,	0	17	6	—	—
To 23d April, 8 quarts per day 112 quarts, at 3d per quart,	—	—	—	1 8 0	—
To 7th May, 6 quarts per day, 84 quarts, at 3d per quart,	—	—	—	1 1 0	—
To 21st May, 4 quarts per day, 56 quarts at 3d per quart,	—	—	—	0 14 0	—
To 4th June, 3 quarts per day, 42 quarts at 3d per quart,	—	—	—	0 10 6	—
Value of dung made this season,	—	—	—	—	3 0 0
Expense deducted as in last year's report,	—	—	—	—	24 14 2
Profit,	—	—	—	—	1.59 17 9

My Cow calved the 30th of April, had a very fine calf; milked her till she calved; her milk was brackish for a month, and fit for no use but the hogs; she then sprung very quick, and her

Brought forward,	1,36	7	6
<i>Milk.</i>			
Quarts per day.	Milk.		
From 30th May to 19th June,	10	210	
From 20th June to 4th September,	20	1540	
From 5th Sept. to 14th November,	18	1260	
From 15th Nov. to 12th December,	14	672	
From 13th Dec. to 19th Jan. 1811,	12	480	
From 10th to 30th Jan.	10	210	
From 31st Jan. to 20th February,	8	168	
From 21st Feb. to 20th March,	4	80	
		4620	

The milk being measured when milked from the cow, there must be deducted for cream,

485

4135

4135 quarts of skim-milk, at 1d. per quart, 17 4 7
Value of dung made this season, 3 0 0
Sold the calf at 10 days old, 2 2 0

Expense, as in my last year's report, 58 14 1
24 14 2

Profit, 1,33 19 11

Ripple Grass.

TO THE EDITOR.

Dated—19th 7mo. (July) 1819.

My Friend,

I wrote the enclosed agreeably to its date, then intending to forward it for thy amusement, and at the same time not intending it for the public eye. Finding since, thy intention to write something on Grasses, I send it on at thy disposal.—Of the Ripple Grass, although not in general approbation amongst many good farmers, I still entertain the same good opinion, indeed it increases in my estimation this dry season. After cutting about the first of this month, although no rain since the 25th of May, except a light shower or two within a few days past [only laying the dust]—the Ripple is shot into blossom and seed, having advantages over every other kind except Clover; it and the Clover seem to be vying with each other for the lead.

My hay, mown from it and clover this year, being all housed in good condition, I never was more pleased with the quality, being put in without any rain; and it ought to be observed, that the dry seasons produce the richest grass. That is well known to graziers, for although scarce of pasture, apparently, yet their cattle fatten better in dry than in wet seasons, the abundant growth occasioned by much wet, makes a weak feeding pasture, and the same observation will hold good in a king hay.—I never sowed the Ripple *furiously*, until the spring of 1818—and the dryness of this year 1819, happens luckily, for I shall continue my present plan until I see reason to do otherwise. I know it to be favourable for the

rain farming, therefore can plough any time and change if necessary, but shall cease sowing timothy a few years, if I live to continue to change.

CALEB KIRK.

Brandywine, 6th mo. (June) 23, 1819

Observing in No. 12 of the *American Farmer* an essay on the subject of Grasses, by J. H. McCULLON, which discovers much correct knowledge of the comparative value of the different kinds most in cultivation, *clover takes the lead as the most valuable*, and more particularly for the cultivator of grain. One remark he makes on clover, that it keeps the ground moister than any other. He might have observed also, that it is in a mellow state with a crop of clover than any other; this measurably is one principal cause of the retentiveness of moisture.

There is a kind of grass very common in this country, that is not mentioned in the list of those described; and although it may not claim that estimation which I conceive to be its due, I believe the want of a correct knowledge of its virtues to be the most prominent cause why it is not duly appreciated; and I know it is so generally disapproved of by some farmers, that they endeavour to destroy every appearance of it on their farms. I have observed it many years, and for a considerable portion of that time with indifference, always having it more or less in my fields. About 1797 or 98, the clover was very much frost bitten in the month of October, and pasture failed. My milch cows were failing in their milk considerably, when they were turned into a field well set with *Rib Plantain* or *Ripple Grass*, as it is generally called, with strong succulent blades, that the frost had not affected in any other way than to make it more palatable. The cows increased in their milk using this *loose ripple* or *rib grass*, beyond any thing I had ever known, (it was only part of the field that was so well set) and afforded an abundant supply of excellent butter for the winter.

This circumstance led me to inquire into the merits of this reprobated grass. In conversing with a very worthy and noted farmer advanced in life, and who was famous for having excellent stock, both horses and horned cattle, and relating my surprise at the increase of milk from the late pasture of that grass, after all others had failed by frost—he smilingly observed, that he wondered that I had not known the value of that grass before—his observation for many years back had convinced him that no hay was equal to it [first crop] for horses; he always raised his colts on it, and his horses would have a better coat through the winter on it than on any other kind of hay. He seldom used any grain, and I well know that his horses were always remarkably full of flesh without grain, as observed before, except they had some work to do more laborious than common; a little oats and corn was then occasionally added, otherwise no grain was fed to his stock of horses.

I generally sowed timothy with clover, and have mostly had good crops of that mixture for hay. From the circumstance of clover, particularly the second crop, producing such a salubrious effect on horses, I have, of late years, become more careless of sowing it, and depended on timothy and other grasses for hay—but I discover-

ed that my land became less productive both in grass and grain.

Resuming the sowing of clover I substituted ripple grass as a mixture in the place of timothy, last year, on all my wheat crop, and am now cutting, 23d of 6th mo. [June] as good a crop of hay as need be desired in quality, and a considerable portion of white clover has sprung up amongst it, which enhances the value of the hay, and which I never had to grow so well with timothy. The high ground sown this year, has been lessened by the dry weather, having no rain for a month past, except a light sprinkle—the bottom land near the water more productive, some producing two tons to the acre, but taking the whole together, perhaps not more than one and a half, but the quality better than when a larger quantity, and the weather so dry as to house it with all its valuable qualities undiminished.—The timothy has proven very deficient this season, by reason of the drought, I suppose. Where I had timothy alone, I had not half a crop, and was obliged to cut before it shot into head, as it was dying on the ground. It may be observed, that the ground is dryer under a timothy crop than under any other grass.

I am now determined to try the ripple further, knowing that grain will grow well after it and clover. They grow, blossom, and seed, so precisely at the same time that they may be cut together; and if moist weather when cut, will grow several inches before the hay can be taken off.—In fact they both grow all the season; some object to the quantity being small, making no product. I have always had a mixture with other grasses, therefore cannot ascertain the quantity, but have, in that mixture had it grow three feet in height, with a head full of seed three inches in length, and a bunch of blades at the root filling up well at bottom. I have never found it rejected by any kind of stock when in hay; sheep are remarkably fond of it, and they are good judges of flavour in hay, I have often thought. They will also dig into the surface of the ground after the root in winter, where it grows strong, not being easily killed by frost. For a dairy farm, near a city, a field of this grass well set, and kept up the last three months of autumn until it gets ahead, would be valuable; for when frost has killed the clover, this becomes sweeter, and cows are fond of it. I have no doubt that a field of this grass, at that season, would produce more butter, and of a better quality, than any kind yet in cultivation.

Top dressing, with compost manure, after the pasturing is over, would encourage the green grass to rise amongst it, and enhance the value either as pasture or hay.

I know our prejudices often get such an ascendancy over our better judgment, that we are not at all times at liberty to exercise that discriminating faculty.

When we imbibe an opinion upon a subject, we seldom trouble ourselves to investigate whether that opinion is founded upon a fair or an unfair ground, until something very striking presents the subject in a contrary shape, affording matter to work upon by reflection and contemplation, then we begin to find ourselves relieved from the trammels of prepossession in some one point.

CALEB KIRK.

EARTH BURNING....No. 3.

Results of some Experiments in Burning of Clay, in a Letter to the Bath and West of England Agricultural Society.

BY THE REV. WILLIAM WILKIESON.

Gentlemen,

I have been led to believe, that the result of some experiments, I have had it in my power to make in the burning of clay, and in the use of clay ashes as manure, may be acceptable to the Society.

In making this communication, however, I take leave to premise, that I have no view to the premium you have offered on this subject. I am aware that the offer is confined to experiments made in the Western Counties.

At Lady-day, 1815, a tenant threw up a farm belonging to me at Woodbury, in Cambridge shire; and I was induced, by many circumstances to take it into my own occupation. The farm is of very considerable extent, and chiefly under the plough; the soil, a cold, stiff, tenacious clay; it had been overcropped for a long series of years, without a proportionate return of manure; and it is so situated, that no quantity of manure is to be purchased in the neighbourhood. It became my object then, to raise as much manure as possible on the premises; and for this purpose I procured a north country bailiff, who understands the management of turnips on a heavy soil, and having by accident seen Mr. Craig's letter on the burning of clay, I conceived mine to be a soil well suited to the practice. I accordingly after some correspondence with that gentleman on the subject, made my first experiment in the end of September, 1815. I deviated a little from the plan laid down in Mr. Craig's printed letter. Having marked out a space of 15 feet by 12, I excavated it one foot deep, and with the soil thrown out made a wall around the space. At each corner I made an air-pipe, each pipe (made of sods) extending only two feet in the enclosure, in a diagonal direction. In the centre of the enclosure I placed upright the butt end of a large tree, around which other fuel is placed, covering the bottom of the whole space within the wall. The fuel consisted of straw, bushes, large billets of wood, and dry roots of trees. I then put dry turf over the whole surface, which again was covered with a thin coat of clay, newly dug up, except a small hole by which the fire was introduced. The fuel being dry, the fire spread rapidly, and it required the active exertions of two men to smother the flames as they burst out; they used for this purpose, dry turf, which they immediately covered with clay. During the first two or three days the surface of the heap occasionally sunk in places, and apparently grew cold: in these places fresh fuel was put, care being taken to make but small openings; and I may here remark, that this operation should be done as speedily as possible, for external air let into the heap, after it was once fairly on fire, seemed to do mischief.

It now burned well, and evenly over the whole surface, for several days; each covering of clay crumbling to ashes in an hour or two after it was put on. It appeared to burn quicker or slower, according to the state of the atmosphere. In

about a week's time from the commencement of the experiment, the heap grew to such a height, that a difficulty arose in lodging the fresh clay on the top of it, although the walls had been heightened; and I attempted, as recommended by Mr. Craig, to pull down one of the side walls and enlarge the base by spreading the hot ashes. In this attempt I did not succeed without much trouble; and I was obliged to add a great quantity of fresh fuel, before I could accomplish my object, and restore the heap to its former heat. It continued to burn well four or five days after this operation; but as the days were becoming short, I did not attempt to spread the base still further, but permitted it to burn out.

This heap was on fire twelve days, and was constantly attended in its progress by two men, from four o'clock in the morning till nine at night, when a thicker coat of clay than usual was put on: one of these men was chiefly employed in digging the clay, the other in wheeling it (only a few yards) to the heap, and throwing it on sometimes by hand, and sometimes with a spade. This heap I afterwards found contained 37 cart loads of ashes; and as my farm lies nearly level, and it was removed to no great distance, the carts were well filled: each load probably consisted of a cubic yard of ashes.

In the spring of this year, 1816, I burned another heap, which was found to contain upwards of 40 loads of ashes; and during the summer I burned two more heaps, the one contained 72 loads of ashes, the other about 55 loads.

I will not take up your time in describing the progress of these heaps, so accurately as I have done that of the first. In fact, the operation proceeded in all the cases precisely in the same manner. I remarked however, latterly, that the labourer who conducted this business for me became more expert, especially in spreading the base of the heap; though, even at last, this was not done without a considerable expenditure of fuel. I never had more than two men and a boy employed at once; and my bailiff having kept an exact account of the expense attending these experiments, I am enabled to state, that, on the average, the cost was about 1s. 6d. the cartload. In this calculation nothing is charged for the fuel, having plenty of bushes and offal wood on the premises; a value however was put upon it as it was used, and 3d. or 4d. per load may be added on this account; I may therefore say, that the whole cost was 1s. 9d. the cartload.

I will now add a few general remarks, which may be useful to any one who may wish to burn subsoil. The fire appears to spread upwards most readily, and the heap grows first cold at the bottom, and towards the walls. As my experiments were made in different parts of the farm, there was a slight variation in the soil; and I observed that, where the clay had no mixture of gravel or stones in it, it burned the best; and I always thought it crumbled quicker, when it was newly dug up. Summer is certainly the best season for this operation, chiefly on account of the short nights, which permit the heaps to be watched with more ease. Moderate rain does but little harm to the fire; high winds are infinitely more destructive to it. I do not think the clay loses much in quantity, by being exposed to the action of fire, but it certainly de-

creases in weight. Wood is supposed to be the best kind of fuel, coal requiring too much air to promote combustion.

It now remains for me to give what information I am able, in regard to the beneficial effects of clay ashes as a manure. The heap of ashes I burned in the autumn of 1815, was used early in this year to manure an acre and a half of land, part of a much larger field. A part of the same field had been folded late in last year with sheep, and the remainder was manured with very good yard dung. The whole field was cropped with barley; and either from the seed being ploughed in too deep, or some other cause, the crop was not a very good one: but I may truly say, that the part manured with ashes was better than that dunged: the part folded was evidently the worst. The same gradation may now be observed in the clover plants, the seed of which was sown soon after the barley.

The greater part of the heap of ashes I burned this spring, was used in the beginning of June to manure an acre and a quarter of land, in the middle of a field of five acres, the remainder of which was manured with the best yard dung. The whole was sown towards the middle of that month with red rind turnip seed; a Northumberland drill was employed to deposit the seed; the distance between the ridges being two feet and a half, so as to admit the horse hoe. The crop is a very good one indeed, many of the turnips being 26 inches in circumference; and one, which I had taken up and weighed, was 29 inches in circumference, and weighed 11 1-2 lbs. I do not perceive that the part manured with clay ashes has at all an inferior crop on it to the rest of the field; my bailiff indeed, remarked, that on the plants first coming up, he thought them the best.

From this heap of ashes six loads had been reserved, which were thrown, the end of June, over somewhat less than a quarter of an acre of rough grass land: and it is perceptible, that the sheep during the summer, have eaten that part of the field more closely than the rest of it.

The two heaps of ashes I burned during the summer, containing together, near 130 loads, have been used this last October, to dress six acres of land, which had been got into a good tilth by a naked fallow: the ashes were first spread, the wheat seed was then sown, and they were lightly ploughed in together. The rest of the field, in which these six acres lie, had been folded with sheep on a naked fallow, and was sown with wheat about the same time. I left my farm about ten days ago, when the young wheat was just come up; and it appeared full as thick on that part of the field manured with the ashes, as on the remainder of it.

I have thus in the course of a year, burned upwards of 200 loads of ashes, and manured nine acres of land, at an expense, fuel included, of about £18—and I am so well pleased with the result of these experiments, that it is my fixed intention to burn ashes to a much greater extent during the next year.

Having brought my communication to a close, I may be permitted to say, that the practice of burning sub-soil is not altogether novel: Lord Halifax and others, pursued it in the beginning of the last century: and successful experiments

of the same nature have been made from time to time until Mr. Craig, of late years has introduced the practice in the south-western parts of Scotland. It is now to be hoped, that, being better understood, it will become more general. I take the liberty, however, of recommending to those gentlemen, who feel inclined to burn sub-soil, to consider, first, the fitness of their soil for the purpose; and whether or not their situation affords a facility of procuring other well-known manures; for, as this practice is not unattended with expense, it must always be a matter of calculation whether other manures cannot be procured cheaper.

I would, lastly, recommend to them, if they do make the trial, not to be content with a single, desultory experiment, which, from many causes, may possibly fail. My own success, in the first instance, I attribute, in some measure, to having a plentiful supply of dry fuel on the spot; but chiefly to the repeated instructions of Mr. Craig, to whom, I thus publicly make my grateful acknowledgments.

I do not think the practice likely to spread among tenants of farms; few tenants will go to the expense of purchasing fuel; and few landlords will allow them to cut it for this purpose on their farms: besides, the digging the soil disfigures the spot where it takes place, and few tenants will take the trouble to make it neat again.

I have the honour to remain, Gentlemen,
Your obedient humble servant.

WM. WILKIESON.

To the President, &c.

Bath, Nov. 22d, 1816.

THE FARMER.

BALTIMORE, FRIDAY, AUGUST 6, 1819.

Current Prices, ascertained by actual sales last week.

TOBACCO.—Virginia, no sales, that we have heard of, since last report; Maryland, wagon, \$11 to 15—Patuxent, \$10 to 12 per. 100 lb.—We have heard of but one bhd. being sold the present week; Red wheat (good) \$1 10 p. bu. Corn 50 to 53c. p. bu. Rye 55—Oats 50—Hay, p. t. 17 dols.—Straw, p. t. 13 dls. A cargo of 600 bushels of good Red Wheat, from Cecil County, sold on Wednesday last by Mr. Peter Levering, for 1 dol. 12 cts. p. bush.—Butcher's Beef, best pieces, 10 to 12 c. p. lb.—Chickens, p. doz. 2 dols. to 2 50 cts.—Veal, per lb. 8 to 10 c.—Mutton 6 to 8—Salt Beef, prime pieces, 6 to 10—Pork, 8 to 10—Eggs p. doz. 12 to 18 cts.—Butter 37 to 50 cts. p. lb.—N. E. Cheese, first quality, 9 to 11 c. p. lb.—Potatoes, new crop, per. peck 37 to 50 cents.—Onions per. peck 50 cents.

North Carolina Staples.—Tar, 1 dol. 62 cts. p. bbl.—Turpentine, (soft) 2 dols. sales—Do. Spirits, 40 to 45 cts. p. gallon—Varnish, bright, 30 to 35 c. p. gallon—White Beans 80 to 100 c. p. bu.—Black Ey'd and other peas, 75 to 80 c. p. bu.—Flooring Boards, 5-4 inches, 20 to 22 dols. p. 100 ft.—No sales for any other kind of lumber.

MISCELLANY.

From the Philadelphia Union.

Chinese method of taking wild fowl.—Whenever the fowler sees a number of ducks settled in any particular splash of water, he sends off two or three gourds to float among them. These gourds resemble our pumpkins; but being made hollow, they swim on the surface of the water; and on one pool there may sometimes be seen 20 or 30 of these gourds floating together. At first the fowls are shy of coming near them, but by degrees they approach nearer; and as all birds at length grow familiar with a scare-crow, the ducks gather about them, and amuse themselves by whetting their bills against them.

When the birds are as familiar with the gourds as the fowler could wish, he prepares to deceive them more effectually. He hollows out one of these gourds large enough to put his head in; and making holes to breathe and see through, he claps it on his head. Thus accoutred, he wades slowly into the water, keeping his body under, and nothing but his head in the gourd above the surface; in that manner he moves imperceptibly towards the fowls, who suspect no danger. At last, however, he fairly gets in among them; while they, having been long used to see gourds take not the least alarm while the enemy is in the very midst of them; and an assiduous enemy he is; for, whenever he approaches a fowl he seizes it by the legs, and draws it in a jerk under water; there he fastens it under his girdle, and proceeds to the next, until he has loaded himself with as many as he can carry away. When he has got his quantity, without ever attempting to disturb the rest of the fowls on the pool, he slowly moves off again; and, in this manner, pays the flock three or four visits in a day. Of all the various artifices for catching fowl, this seems likely to be attended with the greatest success, and is the most practised in China.

GEN. GREENE.

In Council, Savannah, July 26, 1819.

On motion of Alderman Harris,

Resolved unanimously, That the mayor and Aldermen Harris and Ash, be a committee to ascertain, by all means in their power, the vault where the remains of Gen. Greene have been deposited, and on identifying the same, to have such remains placed in a neat mahogany coffin, and thereupon report to council for their further proceedings on this interesting subject.

Resolved, That this resolution be communicated to the representatives of the deceased, who may now be in this state, and also to the proprietors of the vault to be opened, to obtain leave for the committee to carry this resolution into effect.

ON THE ART OF SWIMMING.

From the Essex Register.

In the warm weather, we have an increased list of deaths from accidents, and such as betray inattention, rather than circumstances of uncommon danger. Many persons fall from the frames of buildings, from their carts, and from boats in which they are carelessly sailing. We reckon

accidents not from the dangers, but from the months in which they are expected to happen. Such as have no neglect about them, are by far the smallest part in one season, when they are not so in another. The many losses from the want of experience in the art of swimming are well known. Frequently the loss is from being seldom immersed in water, when the untried situation deprives of all power to recollect what would tend to safety. In seaports, it is peculiarly incumbent on parents that they accustom their children to swim, and to be in the water every way that commerce may oblige or endanger. More depends on self-command than upon any other aid, when thrown unexpectedly into the water. I should be enjoined on persons learning to swim, not to indulge in the amusement without company, till they have full command of themselves, and even then in youth, the richness of the recreation is in the company which aids it. Youth should remember, that, when immersed naked, they are much better provided for motion than when covered with clothes, and that, when their clothes are an incumbrance, they should, as much as possible, be kept under water in all the motions which safety may require, and that they can be taken off more easily below the water than above it. Persons who know least about swimming, should trust to motion least, and if they can put themselves at rest by holding to any thing, or by a very gentle motion, to prefer it, till help is afforded them. So much agility and enjoyment may belong to swimming, that the Romans do not surprise us when they speak of a man not taught to read or swim, as the most untaught of men.

HUMOUR.

The Georgia Advertiser, published at Augusta, by Mr. T. S. Hannon, frequently abounds with strokes of fine humour; the following are not among the least conspicuous, for their wit and epigrammatic point.

EVENTS AND ANTICIPATIONS.

The difficulty of obtaining discounts has had no effect upon the musquitoes—they continue as lively and active as in the most prosperous times.

Such is the scarcity of money, that water-motions will hardly bring a dollar a piece in market—Indeed so great is the distress over the river, that it is not supposed above three hundred dollars will be bet on the next Garden-Pulling.

Twenty-four persons, on Saturday last, took razors in their hands and shaved themselves with great deliberation;—several others, however, having money to pay, got shaved without losing their beards.

Notwithstanding the dullness of the times, any person having money to lend, may be furnished with customers on the shortest notice.

From the absence of Specie, it is thought that some of the Western Banks will have to pay their notes in Bacon, or suspend their operations.

Should Bacon be substituted for Specie, as a circulating medium, it is thought Irish Potatoes might be advantageously made use of for small change.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O Fortunatos nimium sua si bona norint
"Agricolis. . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, AUGUST 13, 1819.

NUM. 20.

AGRICULTURE.

FROM THE ALBANY ARGUS.

Treatise on Agriculture.

SECTION III.

Theory of Vegetation.

[Continued from No. 18—p 140.]

Vegetables may be regarded as the intermediate link in the great chain of creation, between animals and minerals. The latter grow by mere chymical affinity, and by additions, sometimes analogous and sometimes foreign from their own nature; while plants, like animals, have an organization that enables them to receive their food, digest and assimilate it to their own substance, reproduce the species and maintain an existence of longer or shorter duration. Thus far the learned are agreed, but at the next step they differ.

What is this food that gives to plants their development, and maturity, and powers of reproduction? Lord Bacon believed that *water* was the source of vegetable life, and that the earth was merely its home, its habitation; serving to keep plants upright, and to guard them against the extremes of heat and cold. Tull, on the other hand, (and after him Du Hamel) pronounced *pulverized earth* the only pabulum of plants, and on this opinion built his system of husbandry. Van Helmot and Boyle opposed this doctrine by experiments: the former planted and reared a cutting of willow in a bed of dry earth, carefully weighed and protected against accretion by a tin plate, so perforated as to admit only rain and distilled water, with which it was occasionally moistened. At the end of five years, the plant was found to have increased *one hundred and sixty four pounds*, and the bed of earth to have lost, of its original weight, only *two ounces*. Boyle pursued a similar process with gourd, and with a similar result. Notwithstanding the apparent conclusiveness of these experiments, their authority was shaken, if not subverted by others made by Largraff, Bergman, Hales, Kirwan, &c. &c. The first of these, shewed that the rain water, employed by Van Helmot, was itself charged with saline and earthy matter; Bergman demonstrated this by analysis, while Kirwan and Hales proved that the earth, in which the willow cutting was planted, could absorb these matters through the pores of the wooden box which contained it, and that a glass case could alone have prevented such absorption. Hunter, finding that oil and salt entered into the composition of plants, concluded that these formed their principal food, and accordingly recommended as the great desideratum in agriculture, an *oil compost*. Lord Kaimes attempted to revive the expiring creed of Lord Bacon, but finding from Hales' statistics, that one third of the weight of a pea was

made up of a carbonic acid, he added *air* to the watery aliment of the English philosopher—but entirely rejected *oil* and *earth*, as too gross to enter the mouths of plants, and *salt* as too acrid to afford them nourishment. Quackery, which at one time or other, has made its way into all arts and sciences, could not easily be excluded from agriculture. Hence it was, that the Abbe de Valemont's *prolific liquor*, and De Hare's and De Vallier's *powders* &c. &c, were believed to be all that was necessary to vegetation, and found the more advocates, as they promised much and cost little. But before the march of modern chymistry, quackery could not long maintain itself; and from the labours of Bennet, Priestly, Saussure, Ingenhousz, Sennebie, Schæder, Chaptal, and Davy, &c. &c., few doubts remain on this important subject. These will be presented in the course of the following inquiry.

1st. Of *earths*, and their relation to vegetation.

Of six or eight substances, which chymists denominated *earths*, four are widely and abundantly diffused, and form the crust of our globe. These are *silica*, *alumina*, *lime*, and *magnesia*. The first is the basis of quartz sand and gravel; the second of clay; the third of bones, river and marine shells, alabaster, marble, limestone, and chalk; and the fourth, of that medicinal article, known by the name of calcined magnesia. In a pure or isolated state, (1) these earths are wholly unproductive; but when decomposed and mixed. (2) and to this mixture is added the residuum of dead animal or vegetable matter, (3) they become fertile, take the general name of *soils*, and are again specially denominated, after the earth that most abounds in their compositions respectively. If this be silica, they are called *sandy*; if alumina, *argillaceous*; if lime, *calcareous*;

(1) See Gisbert's experiments on *pure earths* and their mixtures. See also Davy's Elements, p. 156.

(2) In this respect nature has been neither negligent nor niggardly, if (as Fourcroy asserts) the purest sand be a mixture of quartz, alumina and sometimes of calcareous matter. *Speculative geology* is romance, and does not merit the name of science; yet is science obliged to borrow her theory of soils. The alternation of heat and cold, moisture and dryness decomposed the mountains of primitive, secondary and tertiary formation; rains and the laws of gravity, brought these from places of more, to those of less elevation—where, by mechanical mixture and chymical combination, the present substrata were formed. But these were yet naked and unproductive, when the Cryptogamia family (mosses and lichens) took possession of them, and in *due time* produced that vegetable matter, which made the earth productive and the globe habitable.

(3) Dead animal, and vegetable matter, in the last stage of decomposition, give a black or brown powder, which the French chymists call *terreau* or *humus*, and which M. Davy calls an *extractive matter*; this is the fertilizing principle of soils and manures.

and if magnesia, *magnesian*. Their properties are well known: a *sandy* soil is loose, easily moved, little retentive of moisture, and subject to extreme dryness; an *argillaceous* soil is hard and compact when dry, tough and paste like when wet, greedy and tenacious of moisture; turns up, when ploughed, into massy clods, and admits the entrance of roots with great difficulty. A *calcareous* soil is dry, friable and porous; water enters and leaves it with facility; roots penetrate it without difficulty, and (being already greatly divided) less labour is necessary for it than for clay. *Magnesian*, like calcareous earth, is light, porous and friable, but like clay when wet, takes the consistency of paste, and is very tenacious of water. It refuses to combine with oxygen or with the alkalis: is generally found associated with granite, gneiss and schiste, and is probably among the causes of their comparative barrenness. (4)

In these qualities are found the *mechanical relations* between earths and vegetables. To the divisibility of the former it is owing that the latter are enabled to push their roots into the earth; to their *density*, that plants maintain themselves in an erect posture, rise into the air, and resist the action of the winds and rains; and to their power of *absorbing* and *holding* water, the advantage of a prolonged application of moisture, necessary or useful to vegetable life. But besides performing these important offices, there is reason to believe that they contribute to the *food* of vegetables. This opinion rests on the following considerations and experiments:

1. If earths do not contribute directly to the food of plants, then would be all soils alike productive; or in other words, if air and water *exclusively* supply this food, then would a soil of pure sand be as productive as one of the richest alluvion.

2. Though plants may be made to grow in pounded glass, or in metallic oxides, yet is the growth in these, neither healthy nor vigorous, and,

3. All plants, on analysis, yield an earthy product; (5) and this product is found to partake most of the earth that predominates in the soil producing the analysed plant; if *silica* be this dominant earth then is the product obtained from the plant *silicious*; if *lime* prevails, then is the product calcareous, &c. This important fact is proved by De Saussure.

1st EXPERIMENT.

Two plants (the *pinus abies*) were selected,

(4) The opinion is general among the chymists of Europe, that magnesian earth is not only barren itself, but the cause of barrenness in other soils in which it may abound, unless saturated with carbonic acid. See Berz, Tennant and Davy.

(5) Davy says this never exceeds one fiftieth of the whole product.

the one from a calcareous, the other from a granitic soil, the ashes of which gave the following products:

	Granitic soil.	Calcareous soil.
Potash	3 60	15
Alk & Sub-sulphates	4 24	15
Carbonate of lime	46 34	63
Carbonate of Mag.	6 77	00
Silica	13 49	00
Alumina	14 86	16
Metalic oxides	10 52	00

2d EXPERIMENT.

Two Rhododendrons were taken, one from the calcareous soil of Mont de Salle, the other from the granitic soil of Mount Bevera. Of a hundred parts, the former gave fifty seven of carbonate of lime, and five of silica; the latter thirty of carbonate of lime and fourteen of Silica.

3d EXPERIMENT.

This was made to determine whether vegetables, the product of the soil having in it no silica, would, notwithstanding, partake of that earth. Plants were accordingly taken from Reculey de Thoiry, (a soil altogether calcareous) and the result was a very small portion of silica.

These experiments says Chaptal, leave little if any doubt, but that vegetables derive the earthy matter they contain from the soil in which they grow. (6)

2d. Of water, as an agent in vegetation:

Seeds placed in the earth, and in a temperature above the freezing point, and watered, will develop; that is, their lobes (7) will swell, their roots descend into the earth, and their stems rise into the air. But without humidity, they will not germinate; or deprived of humidity after germination, they will perish. When germination is complete, and the plant formed, its roots and leaves are so organized as to absorb water. The experiments of Hales prove that the weight of plants is increased in wet, and diminished in dry weather; and that in the latter, they draw from the atmosphere (by means of their leaves) (8) the moisture necessary to their well being. Du Hamel (and after him Sennibier) has shown, that the filaments that surround the roots of plants, and which have been called their hair, perform for them in the earth, the office that leaves perform in the atmosphere, and that if deprived of these filaments, the plants die.

It would be easy, but useless, to multiply facts

(6) Schæder maintains the doctrine, that the earths found in plants are created there by the process of vegetation. His essay on this subject was crowned by the academy of Berlin, in 1801. His experiments were the first to determine the different quantities of silica found in different sorts of grain.

(7) Moisten a bean in warm water, and detach the skin that covers it, and it readily divides into two parts; these are called lobes.

(8) Bonnet's experiments show, that it is the under surface of the leaf, that performs this function. The upper surface has a different office.

Correction.—In copying the second section, an error escaped in relation to the Tuscan plough; the passage should have read thus—"The plough of the north of Europe, like that of this country, has the power of a wedge, and acts horizontally—that of Tuscany has the same direction, but a very different form. With the outline of a shovel, it consists of two inclined planes, sloping from the centre, and forms a gutter and two ridges."

of this kind, tending to establish a doctrine not contested, but which after all does not assert, that water makes any part of the food of plants. On this point, two opinions exist—the one, that this liquid is a solvent and conductor of alimentary juices; the other, that it is itself an aliment and purveyor of vegetable food at the same time. The first opinion is abundantly established. Water when charged with oxygen, supplies to germinating seeds the want of atmospheric air and saturated with animal or vegetable matter in a state of decomposition, or slightly impregnated with carbonic acid, very perceptibly quickens and invigorates vegetation. The second opinion is favoured by some of de Saussure's experiments. On these, Chaptal makes the following remark, which expresses very distinctly an approbation of the doctrine they suggest: "The enormous quantity of hydrogen (which makes so large a part of vegetable matter) cannot be accounted for, but by admitting (in the process of vegetation) the decomposition of water, of which hydrogen is the principal constituent; and that though there is nothing in the present state of our experience that directly establishes this doctrine, yet that its truth ought to be presumed, from the analysis of plants and the necessary and well known action of water on vegetation.

[To be continued.]

FROM THE NATIONAL INTELLIGENCER.

THE POTATO.

This valuable root is a native of America.—Whether it was here before the flood or not, is of no consequence to us. It is here now, and our duty is to make the most we can of it. It is curious enough to see the people on the Potomac importing potatoes from New England or Nova Scotia, and sometimes from Ireland, when they might just as well be exporting them for little more than half the price. In this respect they are almost as wise as some of our wine drinkers, who rather than miss their favourite beverage, will run the risk of the plague, the gout, an Algerine war—while at the same time they might obtain spruce beer of the very first quality from their own country, for less than half the price, without any of the above risks. The run for foreign articles, so prevalent in our country, often makes me think that if potatoes were brought from the moon at 10 dolls. per bushel, they would find purchasers. However, as there are some few among us, who wish to raise potatoes, and don't know how, I will give them the following directions, which may serve until they get better. It is supposed that the farmer has already some knowledge of the nature and strength of soils, so as to know the quantity and quality of manure requisite to get a crop. I have seen 1000 bushels of cow-manure put on an acre of poor land, which has brought and ought to bring 400 bushels of potatoes. No doubt but plaster would answer a good purpose on sandy or gravelly soil. The ground ought to be ploughed eight inches deep, and well harrowed.—The easiest method of planting is with the plough, in rows, three feet apart; the seeds, containing one eye, or two at most, ought to be eight inches apart, if they are allow-

ed any chance to grow; each seed should weigh the third of an ounce Avoirdupois. At this rate an acre will require about 15 bushels of seed. I prefer planting in the increase of the moon, though the difference may not be much; the practice of changing the seed seems to be useless; when people have got a good kind I would advise them to keep it. I have seen potatoes raised for twenty years on one plantation without changing the seed, any farther than from one field to another, and back again without any visible alteration. As to planting, if the ground be rich enough without manure, the furrow for the row need not be more than four inches deep, otherwise it ought to be six. In dry, sandy land put the seed under the manure: if otherwise put it on the top. The seed and manure being put in the furrow, they can be covered with the plough, no matter how deep. About six or seven days after planting, go over the field with a horse and light harrow, by this means the rows will be nearly levelled without stirring the seed, if the person at the harrow knows how to manage it. When the plants have risen about three inches above the ground, the horse and plough may be sent through them to plough the earth from the rows about four inches deep, leaving the rows eight inches wide with the plant in the middle of it. When they have got up to six inches, a small portion of earth may be ploughed up to them, taking care not to cover the plants. About this time the cut worm is likely to become troublesome—in order to prevent this, you may watch your opportunity for a calm morning, between day break and sunrise, when the firing three or four charges of gun powder over each acre, will affect them very seriously; the dose may be repeated as occasion requires—this is much easier than pouring arsenic down their throats.

When the plants have got ten or twelve inches high, the last ploughing may take place, when the furrows must be completely cleared up—the hoe must now, for the first and last time, follow, to rectify what the plough has missed; the rows, when finished, ought to be at least twelve inches higher than the furrows. It is now that the plant begins to be of use; the tender leaves make tender greens. I have often wondered to see people running ready to break their necks, over hill and dale, among briars and rattlesnakes, to gather wild herbs, and perhaps poisonous ones too, when they had plenty of good wholesome potato tops close to their door. But now comes the potato in bloom. How beautiful! If you have bees, the blossoms should not be molested until the apples appear; if not, they may be pulled off with about two inches of the stem—these boiled, and seasoned with butter are a delicacy that perhaps monarchy never tasted nor ever thought of. The pulling off the blossoms or balls, when first formed, is of service to the plant, as what would support the apple will now return to the root. To perform this operation would be fine amusement to children; consequently no loss of time to the farmer. Those who dig potatoes before they are ripe, should count the cost and act accordingly. It is very easy to know when they are ripe, by the death of the tops. If the weather be warm, they should be dug up, to prevent a second growth, and put in the cellar mixed with

some sand. Deep cellars, (say ten feet) are cooler in summer, and warmer in winter, than shallow ones. How this happens when both are filled full, I leave philosophers to explain. The potato bin ought to be frequently overhauled during the winter and spring, in order to move the small and decayed ones from the pile, as one rotten one will soon spoil a dozen. Also, if they are found to be watery, from a wet season or soil, a very small piece may be cut off from the top or seed, so called; this will help them considerably. All this may be done in the evenings without any loss of time. It is likely that slaves will not like the employment; and why should they? After working all day for nothing, it is hard enough to work at night too; but men who earn their own living as they ought to do, will think no hardship of it. I have no doubt but potatoes might be kept in the vicinity of an ice house, at a certain temperature, for many years. I have seen them eighteen months old, as sound, hard and sweet, as when they were taken out of the earth. The uses that the potato may be applied to, are numerous. As an article of food, they may be used many ways; such as roast, boiled, stewed, fried or baked as one ingredient in bread to eat warm, although some people that love them, don't know how to cook them either way. As a medicine, they are not without their virtues, being of an opening quality. In fact I never knew a great potato eater have the gout to a serious degree. The gratings of this root, after being gently pressed and the juice thrown away, make fine poultices for fresh scalds or burns. I had almost forgot that the juice makes excellent starch. Now let us see how it stands in the line of luxuries; the potato will make coffee and whiskey, but when we consider that not one in a thousand knows how to make the former, and prejudice being on the opposite scale it will be of little consequence, while the latter will do more harm than good. If we turn to the animal world we will find a great call for this favourite root. Its value to horses is well known to farriers. I might go on to shew how beneficial it would be for cows, sheep, goats, or even cats, dogs and fowls; but the reader will probably be tired, and the printer also.

PATRICK.

P. S. It is not too late yet to plant potatoes.

FROM THE RALEIGH STAR.

Receipt for making Cider, and preserving it sound for years.

Three months ago, I was at the house of Nicholas Nall esq. who lives near Deep River, at the upper extremity of Moore county, where I drank old cider of a very superior quality; and as the habitual use of cider is eminently conducive to health insures sobriety imparts the agreeable sensation of strength and vigour, and as it is a pleasant beverage that can be afforded at a small expense: I took care to be exactly informed of his manner of making, refining and preserving it, in the hope that advantage might accrue in the publication of it. Mr. Nall had in his cellar, as well as I now remember about 8 or 10 hogsheads and fifty or sixty barrels of cider of different ages, the oldest was best; nor did he think any fit to drink until it was at least a year old.—That which I drank, was three years old, and it was

excellent. His oldest cider I did not taste, as he intends it as treat for his executors. He complained that his stock was too small to drink it of the age he wished; but intended to fill another cellar. I here copy Mr. Nall's receipt, as he gave it to me in writing in April last.

"All apples fit to be eaten, will make good cider—The grand secret is the cleansing it from the filth and dregs as early of possible. Each sort of apples are to be beaten and pressed by themselves. Two kinds of juice, both good, would, if mixed, often make bad cider. Throw out all imperfect, sorry and sun burnt apples, as well as dust and trash—Beat your apples before much mellowed; as they lose their strength, soundness and spirit, if too mellow.—Let them stand half a day after being beaten, before put into the press; then press them slowly; discontinue it as soon as the juice appears thin and watery. The advantage of slow pressure is in making the liquor run pure. Let your casks, previously well cleansed, be filled quite full, to permit the froth and pumace to discharge itself at the bung.—When the fermentation abates, cover the bung closely with something that may be lifted by the fixed air that escapes during the future fermentation. In a week, rack off the cider carefully, ceasing the moment you observe it to run muddy: Now stop the cask more firmly. In ten days, rack it off a second time: and in fifteen days a third time. In every instance, the casks are to be clean, and perfectly well filled; and when filled for the last time, to be bunged close in a deep, dry cellar, never to be moved until drawn for use. Late cider need not be racked until March, and then one racking, or at most two, will be sufficient. Be very careful that no water, not even the little that will adhere after rinsing a cask, is mixed with the cider. The smallest quantity of rain water will render cider unfit to keep. The addition of any quantity of distilled spirits is not only useless, but injurious."

Mr. Nall's method is the result of long experience, and its success justifies me in recommending it to the publick. I hope it will be tried.

CALVIN JONES.

Raleigh, July 25, 1819.

N. B. I ought to have mentioned that Mr. Nall told me, he had for many years tried various plans for clarifying cider to prevent its souring, by means of milk, isinglass, scalding and scumming filtering through sand, &c. &c. and found all useful; but is satisfied that frequent racking or drawing is far preferable to any other method he has attempted.

An Act to improve the Agriculture of the State of New York.

1. BE it enacted by the People of the State of New York, represented in the Senate and Assembly, That the sum of ten thousand dollars per year, for the term of two years, from, and after the passing of this act, shall be, and hereby is appropriated for the promotion of agriculture, and family domestic manufactures within this state; that the said sum shall be distributed among the several counties of this state, in the manner following, to wit: To the county of Albany, three hundred and fifty dollars; to the county of Alleghany, seventy five

dollars; to the county of Broome, one hundred dollars; to the county of Cayuga, two hundred and fifty dollars; to the county of Chataque, fifty dollars; to the county of Chenango, two hundred dollars; to the county of Clinton, one hundred and twenty five dollars; to the county of Columbia, three hundred dollars; to the county of Cortland, one hundred and twenty five dollars; to the county of Delaware, two hundred dollars; to the county of Dutchess, four hundred dollars; to the county of Essex, one hundred and twenty five dollars; to the county of Franklin, one hundred dollars; to the county of Genesee, two hundred and fifty dollars; to the county of Greene, two hundred dollars; to the county of Herkimer, two hundred dollars; to the county of Jefferson, two hundred dollars; to the county of Kings, seventy five dollars; to the county of Lewis, one hundred dollars; to the county of Madison, two hundred and fifty dollars; to the county of Montgomery, four hundred dollars; to the county of New York, six hundred and fifty dollars; to the county of Oneida, and that part of the county of Oswego which formerly formed part of the county of Oneida, four hundred dollars; to the county of Onondaga, and that part of the county of Oswego, which formerly formed a part of the county of Onondaga, three hundred dollars; to the county of Ontario, five hundred dollars; to the county of Orange, three hundred dollars; to the county of Otsego, four hundred dollars; to the county of Putnam, one hundred dollars; to the county of Queens, two hundred dollars; to the county of Rensselaer, three hundred and fifty dollars; to the county of Richmond, seventy five dollars; to the county of Rockland, one hundred dollars; to the county of Saratoga, three hundred dollars; to the county of Schenectady, one hundred dollars; to the county of Schoharie, two hundred dollars; to the county of Seneca, one hundred and fifty dollars; to the county of St. Lawrence, one hundred dollars; to the county of Stuben, one hundred and fifty dollars; to the county of Suffolk, two hundred dollars; to the county of Sullivan, one hundred dollars; to the county of Tioga, one hundred and fifty dollars; to the county of Tomkins, one hundred and fifty dollars; to the county of Ulster, two hundred and fifty dollars; to the county of Warren, one hundred dollars; to the county of Washington, three hundred and fifty dollars; and to the county of Westchester, two hundred and fifty dollars.

2. And be it further enacted, That when any agricultural society shall be formed in any one county, or in two contiguous counties, and the members thereof shall annually procure, or raise by voluntary subscription, any sum of money the president and treasurer shall make and subscribe an affidavit of the facts of the formation of such society, and of their having raised a certain sum, specifying the amount thereof: which affidavit shall be filed with the comptroller of this state, who shall draw his warrant on the treasurer, for the payment of a sum equal to the amount of such voluntary

subscription; not however, in any case exceeding the amount to which such county or counties would be entitled according to the apportionment aforesaid.

3. And be it further enacted, That the several agricultural societies which may be formed in this state, shall elect such and so many officers as they may deem proper, all of whom shall be practical farmers; none of whom, however, shall receive any emolument from his office; and it shall be the duty of such officers annually to regulate and award premiums on such articles and productions as they may deem best calculated to promote the agricultural and manufacturing interest of the state.

4. And be it further enacted, That each person to whom any premium shall be awarded, for any agricultural product, shall, before the receipt thereof make as accurate a description of the process used in cultivating the soil, and in raising the crop, or of feeding the animal, as may be; and shall in all cases describe the nature of the soil, the kind and quantity of the manure, the state thereof, and the time of the year in which applied; and deliver the same to the president of said society.

5. And be it further enacted, That the several presidents of the said societies, shall annually, within one week after the annual meeting of the legislature, transmit all such reports or returns to the office of the secretary of state, to be by him kept safely till demanded by the board of agriculture, hereinafter named and organized.

6. And be it further enacted, That the several presidents of the several agricultural societies within this state, or a delegate to be chosen by each of the said societies, shall form a board of agriculture for this state; who, on the first Monday after the annual meeting of the legislature, may convene in the capitol, in the city of Albany, any five of whom shall form a quorum; may elect a president, secretary, and such other officers as they may think proper, receive and examine all such reports and returns as aforesaid, and select for publication, such of them, and such other essays as they may judge advisable; and shall annually publish a volume at the expense of the state, to be distributed by means of the said agricultural societies, to the good people of the state not exceeding fifteen hundred copies of such volume; which president and secretary shall continue in office during the continuance of this act.

7. And be it further enacted, That the treasurer of this state shall, annually pay, on the warrant of the comptroller, to the said board of agriculture, one thousand dollars, to enable them to purchase and distribute among the several agricultural societies, such useful seeds as they may deem proper, and to defray such other necessary expenses to promote the object of this act, as are not otherwise provided for; and said board shall annually account with the comptroller for the expenditure of said money.

8. And be it further enacted, That it shall be the duty of the secretary of this state, as soon as may be, to cause this act to be pub-

lished in at least one newspaper, printed in each of the great districts of this state.

From the "Winchester Gazette."

CHILE WHEAT.

We have the pleasure of communicating to our agricultural friends the copy of a letter from Abel Seymour esq. of the neighbourhood of Moorfield, a gentleman of observation and intelligence, to the hon. Hugh Holmes, of this place. The minute account given by Mr. Seymour of his experiment and success in cultivating a small quantity of the CHILE WHEAT will no doubt be read with more than ordinary interest by those interested in the raising of this valuable commodity. It is hoped, that the miniature experiment of Mr. S. will induce our farming gentlemen to purchase some of the seed, and extend the experiment upon a more enlarged scale.

"Moorfield. July 14. 1819.

"I enclose you an ear of *Chile Wheat*, as you are a wheat raiser. It appears to me it will be a valuable acquisition to this country; whether it will succeed best to be sown in the Fall or Spring of the year must be proved by experiment—there is no doubt, on my mind, but it will do in the Spring. My son was in Baltimore in March last, and procured a little perhaps half a spoonful of the seed. He returned on the 2d day April—I had just finished reading Mr. Bland's report, and had made up my mind that the wheat of that country must make itself from the moisture in the earth at the close of the rainy season. I could not imagine that nature had formed any country where large fields of wheat could be safely watered by streams to be taken on high land for eighty or one hundred miles [the length of the Valley of Chile, from the mountain to the Pacific] without a very dense population, which I did not understand from Mr. Bland's book, existed.* This circumstance, together with the doubt whether the little seed we had might be kept safe until the fall season, caused me to direct my son to sow it in my rye field in a place from which we had taken a fodder stack, and left a vacancy of about five feet in diameter. The fore part of April, with us, was cold and dry, so that it did not vegetate until the 18th and 20th of the month, the rye by this time, had got so high as almost to smother it.

However, it grew on with a broad strong blade of a very bluish cream colour; on the 8th day of June I observed some ears shooting out, and on the fourteenth they were fully out. When I saw the ears I was much pleased with their appearance, and with a sickle cut the rye from around it, and thus gave it a little room for the air to reach it—it grew to the height of about three feet and an half; some of the stalks were four feet high; the ears are in the form of the enclosed, very full of grain, but short—some I measured were two and an half inches in circumference, having four, and sometimes five grains abreast—they do not embrace the stem as our wheat does, but set with the end to the stalk with grains irregularly set around the top—the smallest ears of it have as many grains as the largest of my crop of wheat. The drought for the last

three weeks, with us, was very severe, which prevented some of the top grains from filling properly. We had also put it in a poor gravelly spot of land. I am of the opinion that it would be well for gentlemen who have got of the seed to keep a part to sow in the spring; mine is now ripe, and my oats, which were sown a week before it, are not. If it does not deteriorate it will be valuable.

"I remain dear sir, with respect,

Your obedient servant.

ABEL SEYMOUR."

Hon. HUGH HOLMES.

Unwilling on account of its curiosity, to shell the ear sent to me by Mr. Seymour and thereby ascertain its contents, I have counted the grains on the ear, on the supposition of five being abreast, as stated by him. (and I believe correctly) and found twelve in each row, which make the grains amount to 120—thus exceeding the best average of golden straw from 40 to 50 grains. the purple straw about the same, and the Snider, Jones or Lawler, about 80.

HUGH HOLMES.

NOTE BY A CORRESPONDENT.

* All the vallies of Chile, have the appearance, to the spectator, while in them of being perfectly circular, oval or oblong. This appearance is owing to the height and steepness of the ridges on each side, and to the elevated knobs, that here and there rise out of the middle of them, or to the projecting spurs of the lateral ridges, that often meet and form transverse ridges which, closing the view, gives to the valley a circular, and amphitheatre-like appearance. The principal rivers of Chile, like those of the United States, make their way to the ocean, from their highest elevations in the mountains, directly across the vallies; the length of which, is uniformly found to be nearly north and south, or parallel with the Andes. The vallies of Chile lie in successive ledges, like shelves, or stair steps, one above another, from the first plane, the surface of which, is nearly on a level with the top of the bluff range of promontories which frown over the margin of the ocean, to the foot of the lofty Cordellera the tops of which are, two thirds of the year, clad in snow. Following the direct route from the capital to Valparaiso, notwithstanding the crossing of prodigious ridges, the descent from valley to valley, is very evident. On looking at the country from sea, the vallies being completely hid, it has the aspect of one enormous range of mountains, from the shore to the snow capped top; the crags and spurs appearing to rise immediately one above another, without the least interval.

The principal vallies, directly east of Valparaiso, are the Tablas, a great part of which might, very probably, be watered by the stream that crosses it. As yet it is used only for pasture, particularly for sheep, of which there are prodigious flocks on it. This valley is about fifteen miles wide. The valley of Casa Blanca, which is about the same width is crossed by a very abundant and bold stream.

The valley of Curricabee about eighteen miles wide, is very fertile, and the greater part

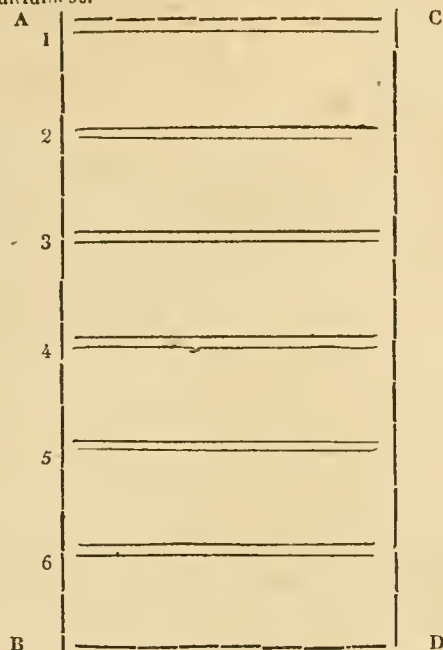
capable of being watered. And lastly, the valley of St. Jago, about the same width and one of the longest and finest in Chile. The valleys generally present a very even surface, with some few gently elevated waves, and swells; and they all decline more or less from east to west; that of St. Jago, immediately round the capital, a beautiful plane, has been found by actual measurement to have a declension from east to west of one and a half inches to every one hundred and fifty yards.

The annexed diagram will enable the reader to comprehend the manner of watering the wheat fields and vineyards in Chile. Let A, B C and D represent a wheat field of from twenty to fifty acres. The water is conducted from the river of the valley, along the upper side of the field, in a ditch, from A to B. The field is then, after the wheat is sown, crossed with small trenches, such as might be made by running a plough two or three times in the same furrow, from the ditch A, B, to the opposite side of the field D, C. These small trenches are about eight or ten feet apart, and have the water turned into them, from the ditch, by a few sods being thrown into it, at 1, 2, 3, 4, 5 and 6, just below their several intersection with it. Vines are usually planted in rows, four feet apart one way, and about eight feet the other; and these vineyards are irrigated, during the summer, in a manner similar to the wheat fields. The whole operation is extremely simple, and is attended with very little trouble. As far north as the latitude of Valparaiso, some of the hill sides, having a favourable southern aspect, are sown with wheat, which is brought to perfection without any other moisture than the autumnal and winter rains, and the onzings from the hill side; but the flat, of no valley, in that latitude, or to the northward of it, will bring wheat to perfection without irrigation from the rivers.

Some of the Chileno farmers purposely leave growing in their wheat fields, a great number of bushes of the shrub called espino, or thorn, which bears an abundance of small tufts of flowers, of a bright gold colour, which are very fragrant. These bushes which are suffered to grow to a size somewhat larger than our sweet briar, they say, cherish and protect the wheat from the fervid rays of the sun, and hold it up. The espino, of Chile, has a very strong resemblance to our common locust.

I mention this circumstance for the consideration of our farmers, in consequence of what you, Mr. Editor, remarked not long since, relative to the social quality, or the antipathy of plants. Although the causes have never been, that I know of, in any way explained, yet the existence of the principle, of this vegetable affinity, or repulsion appears to have been well known to the ancients, and in different countries. Plutarch tells us, that among the regulations of Solon, respecting the planting of trees, one of them, directed, "that he, who planted any tree in his field, was to plant it at least five feet from his neighbor's ground; and if it were a fig tree or an olive, nine; for these extended their roots further than others, and their neighborhood is prejudicial to some trees, not only as they take away the nourishment but as their effluvia is noxious." And in Venezuela, where the cacao, or chocolate nut, is cultivated to great advantage, we are told, that the delicate cacao cannot bear the unbroken rays of the vertical sun; and, that it must be shaded by some more robust plant in its immediate neighbourhood; that the erythine, which the Spaniards call *bucare anaveo*, is, therefore, always planted with cacao; that associated with some plants the cacao will wither and die; but, that such is its strong friendship and predilection for the shade,

society and effluvia of the erythine, that with it for a companion, it attains its greatest perfection and fruitfulness.



TO THE EDITOR

dated—Wye-House, Feb. 21, 1810

Dear Sir—In the American Farmer of the 9th inst. you requested a communication from those who were furnished with the Chile Wheat, brought in by Judge Bland. In compliance with this request, I now furnish you the result of my seedling: I seeded one pint of this Wheat in my garden, in drills, about the 15th November, a period too late to expect a good product. The Wheat, contrary to my expectations, was very little injured by the frost, and was very promising early in the season; but owing to the drought, some weeks before, and at the time of ripening, the grain is much inferior in quality to the imported seed; but the quantity has far exceeded my expectations. I have this day cleaned and measured it, and the product is 58 pints. This will induce me to seed it with care the next fall, and at a proper season; and I am inclined to think, from the appearance of the head, and the above circumstances, that it will prove a valuable Wheat. Yours, E. LLOYD

Miscellaneous Selections.

INTERNAL IMPROVEMENT.

Extract of a letter from a member of the North Carolina Catawba Navigation Company, to a gentleman in Camden, S. C.

I have great pleasure in stating to you, the rapid progress that is now making in the Catawba Navigation, within the boundary of North Carolina. Much zeal is manifested by the company, and I have little doubt but that if it meets with a corresponding promptitude, by the citizens of South Carolina, and especially, by those living contiguous to the War-tree, we shall, in a very short time, have the satisfaction of seeing boats running on its waters for more than 150 miles above the dividing line of the two states.

The liberal appropriation made by the state of S. Carolina, at its last session, is worthy the high character of the state; and, if discreetly managed, will confer additional importance on the reputation she already enjoys. Its amount, I understand, is abundantly sufficient to effect the object in view, and I look forward with increased anxiety, to the formidable obstructions which your Engineer will have to encounter at Rocky Mount and Graves' Island. Were these impediments removed, a safe and easy convey-

ance would throw the whole surplus produce of the counties of Mecklenburgh, Lincoln, Iredell and Burke, into the markets of Camden and Charlestown.

It is a fact but lately known, although well ascertained, that the produce of the upper country, even within six miles of the Blue Ridge, could, with a removal of the present existing obstructions below the boundary line, be transported to any point on the river, with the utmost ease and but little expence. This circumstance taken into consideration, with that of the high prices which the citizens of Camden, and many of the planters, for a few years past, have been compelled to give for provisions, namely, corn, bacon, &c. will, I apprehend, be of itself, a sufficient incentive to direct their attention to this important object.

Mr. Abernethy, the Company's contractor, is at present engaged in cutting a Canal around the shoals of Mountain Island. This is a work of considerable labour and expence, but from a recent inspection, I am induced to believe, that, together with the necessary Locks, it will be completed before the first of January, 1820.

The other shoals on the Muin River are but slight and will admit the passage of boats with perfect safety, in a very few months. However, the attention of the Company, during a part of the spring and summer, has been, and will be, directed to the South Fork of the Catawba, many parts of which will require as much labour, and probably more expence, than the Muin River itself. However, should the contractor succeed in procuring as many labourers, as he is instructed to employ, we may reasonably expect the whole undertaking to be sufficiently advanced within twelve months of this time, to admit the passage of boats on both rivers.

AN ENGLISH SUMMER.

Description of an English Summer, in the year 1768.—extracted from a letter of Horace Walpole, dated June 1st.

"I perceive the deluge fell upon you before it reached us. It began here on Monday last, and then rained near eight and forty hours, without intermission. My poor hay has not a dry thread to its back. I have had a fire these three days. In short, every summer one lives in a state of mutiny and murder, and I have found the reason: It is because we will affect to have a summer, and we have no title to any such thing. Our poets learn their trade of the Romans, and so adopt the terms of their masters. They talk of shady groves, purling streams, and cooling breezes, and we get sore throats and agues with attempting to realize their visions. Master Damon writes a song, and invites Miss Chloe to enjoy the cool of the evening, and the deuce a bit have we of any such thing as a cool evening. Zephyr is a north-east wind, that makes Damon button up to the chin, and pinches Chloe's nose till it is red and blue; and then they cry, *this is a bad summer* as if we ever had any other. The best sun we have is made of Newcastle coal, and I am determined never to reckon upon any other. We ruin ourselves with visiting our foreign trees, and make our houses clamber up hills to look at prospects. How our ancestors would laugh at us, who knew there was no being comfortable, unless you had a high hill before your nose, and a thick warm wood at your back. Taste is too freezing a commodity for us, and, depend upon it, it will go out of fashion again.

"There is, indeed, a natural warmth in this country, which, as you say, I am very glad not to enjoy any longer—I mean the hot house in St. Stephen's chapel. My own sagacity makes me very vain, though there was very little merit in it. I had seen so much of all parties, that I had very little esteem left for any; it is most indifferent to me who is in or who is out, or which is set in the pillory, Mr. Wilkes or my Lord Mansfield. I see the country going to ruin, and no man with brains enough to save it.—That is mortifying; but what signifies who has the undoing of it? I seldom suffer myself to think on this subject; my patriotism can do no good, and my philosophy can make me be at peace."

SALE OF TOWN LOTS IN THE WOODS OF ALABAMA.

At the late sale of town lots in the town of Cahaba, (the spot selected for the seat of government of the future state of Alabama) some of the lots unimproved of course, as the place is yet but a plantation, or piece of woods, sold as high as 5,025 dollars; and 184 lots, the number sold, brought upwards of an hundred and twenty thousand dollars.

CESSION OF THE FLORIDAS.

Extract of a letter from an officer on board the Hornet (to his friend in this City) dated New York, July 30.

"I have the pleasure to inform you of our sale arrival at this port, after a passage of 27 days from Cadiz.

"We have returned without the treaty being ratified, nor is it probable it ever will be. Capt. Read left Madrid on the 22d June, at which time the ministry were debating on the subject.

The marquis de Casse Yrujo (prime minister) was banished from Spain with his family, a few days previous to our sailing; on account, it is said, of his being too warmly interested in *our cause*.

"There is a large naval force lying at Cadiz, with 18,000 troops, destined, it is said, for the protection of the Floridas, and not for South America, as was originally contemplated. (*Dubious*)

"An action was fought off Cadiz about the 15th June, between the Spanish government brig Voluntario, of 14 guns, and the Buenos Ayres government brig Independencia of 18 guns, wherein the latter was defeated! The V. has arrived at Cadiz, much cut up. They both fought under the flag of the United States.

"The officers and crew (70 in number) of the late patriot privateer Constitution, Capt. Appleton Meach (of Baltimore) are at Cadiz, in dungeons. General O'Donnel, governor of that city, has received an order from the king to pardon all the Spaniards found on board that vessel, and to execute all the foreigners. He did not obey it; but remonstrated against the cruelty of the act.

"Cadiz is a bad market for American produce. A cargo of Baltimore superfine flours old at 8 dollars 50 cents per barrel, a few days before we sailed. Naval stores of all descriptions are equally dull."

The ratification of the Florida treaty was expected by the Hornet; "but blessed are they who expect little; for they shall not be disappointed." She has arrived without it. There was no ratification as late as the 22d June, and there was some doubt (to say the least of it) whether it would take place at all.—There was even a rumour at Cadiz, and an impression among some of the officers of the Hornet, that it would never take place. Should this be the case, can any one mistake the cause of it? We may see the hand-writing on the wall; but we shall not see the mysterious finger. Yet we shall be as well satisfied that the hand is there—that the hand of Great Britain is in this thing; that it is her secret intrigues that now delay, and may ultimately defeat the consummation of our wishes; that while her ministers were openly, in parliament, admitting the right of Spain to cede what portion of her possessions she pleases, and disclaiming any right on their part to prevent it, and they are secretly and slyly plotting against us, and bidding off the relinquishment of the Floridas by the *bonus* of the South American Bill.—She may also urge upon Spain to hold off until we resort to a similar measure; nay, to make it a condition that she will ratify, provided we cut off all our resources from the Patriots of South America.

Should Spain refuse, she will be bound to disclaim the conduct of Don Onis, and to satisfy us that he had no authority for going as far as he has gone.—Should she refuse, a case of great delicacy and importance will come before us: *What shall we do?*—This is a question which requires a cool head and much deliberation to decide. Too much has already been hastily said by others upon it.

The rumour at New York of Spain's making war upon us is absurd. *She dare not.* She will not risk a war with us unless Great Britain edges her on, and she is too poor and pennyless to wish to do it. We think that Spain will neither seek a war with us, nor finally reject the treaty. *Richmond Enquirer.*

CASHMERE GOATS.

The Chevalier Janbert, who had been sent by the French government to Cashmere, to procure some of the Goats producing the precious wool which forms the material of the Shawls fabricated at that place, had been heard from on his return, having reached the city of Maria Pol, in the government of Catherine-slaw, in Russia, bringing with him a flock of 1300 goats. At the date of his letter, (17th Dec. last) the thermometer of Reaumur marked fifteen degrees of cold, and the snow was a foot deep, which did not appear to affect the flock unfavourably, as they are accustomed to browse on the mountains of Thibet, where a great degree of cold prevails. This immense flock was to proceed to Theodosia, upon the Black Sea, whence it was to be embarked for France.

MR. GUILLE'S ASCENSION.

Yesterday a novel scene was presented to us. For the first time in America, an aeronautic ascension, so often attempted, was actually executed, and in a manner that gave universal satisfaction. We have often been surprized that the frequent exhibitions of this kind in Europe, should draw forth so large crowds and excite such acclamations as are always expressed by the spectators: but in seeing this our surprise has ceased. The scene was interesting beyond all expectation.

At an early hour in the afternoon every carriage was in requisition for the gardens, and Broadway, the Bowery, and all the roads leading to that place were crowded, and at about half past 5, all the avenues became impassable. The lower part of the town was nearly depopulated. Every tree, fence and shed in the vicinity of the garden, was covered with spectators, anxiously waiting to see the balloon ascend. To gratify those who were in the garden, the balloon was partially inflated about five o'clock, and suspended about ten feet from the ground. At 5 minutes past 6, it was completely inflated and immediately rose about 40 feet, in which situation it was suffered to remain but a short time. At 18 minutes past 6, Mr. Guille advanced to the centre of the circle, and after making some little examination of the cords which connected the parachute with the balloon, he took leave of his wife, bowed gracefully to the spectators, and took his position in the basket. In an instant the balloon began to ascend. The parachute was evidently lower on one side than the other, and much apprehension was felt for the safety of the voyager. At the moment of ascending, a gust of wind sprung up from the northwest and drove the balloon directly over the tall poplars in the garden, so that the basket was forced upon them and carried off some of the small branches. On clearing the trees the finest scene was presented: the balloon ascended with majesty and rapidity to a great height, the wind wafting it towards Long Island. In less than 10 minutes the parachute was detached from the balloon, and was seen for nearly half an hour gradually descending; apparently over Long Island; the balloon continuing in the mean time to ascend, till it finally disappeared in the clouds.


Till about 9 o'clock in the evening, much anxiety was manifested for the fate of the Aeronaut, when it was ascertained that he reached the earth in safety, having landed at Bushwick, near Wilhamsburg, Long Island, about 6 miles from Vauxhall garden. He reached town about half past eight o'clock with his parachute, in perfect health and spirits.

The engagement of Mr. G. was honourably fulfilled and we sincerely hope he may receive the remuneration he so eminently deserves.—*Merc. Adv.*

The ascent of Monsieur Guille recalls to recollection the following fanciful lines from Darwin's Botanic Garden:

See on the shoreless air the intrepid Gaul
Launch'd the vast concave of his buoyant ball!
Journeying on high, the silken castle glides,
Bright as a meteor, through the azure tides;
O'er towns and towers and temples wings its way,
Or mounts sublime and gilds the vault of day.
Silent, with upturn'd eyes, unbreathing crowds
Pursue the floating wonder to the clouds;
And, flush'd with transport, or benumb'd with fear,
Watch, as it rises, the diminish'd sphere.
Now less and less! and now a speck is seen!
And now the fleeting rack obtrudes between:
The calm philosopher in ether sails,
Views broader stars, and breathes in purer gales;
Sees, like a map, in many a waving line,
Round earth's blue plains, her lucid waters shine;
Sees at his feet the fork lightning's glow,
And hears innoxious thunders roar below.
Rise, great Mongoifier! urge thy ventures flight;
High o'er the Moon's pale ice-reflected light,
High o'er the pearly star, whose beamy horn
Lungs in the east, gay harbinger of morn;
Leave the red eye of Mars on rapid wing,
Jove's silver guards and Saturn's crystal ring;
Leave the fair beams, which issuing from afar,
Play with new lustre round the Georgian star.
Shun, with strong oars, the Sun's attractive throne;
The sparkling zodiac, and the milky zone,
Where headlong comets, with increasing force,
Through other systems bend their blazing course:
For thee Cassiope her chair withdraws,
For thee the Bear retracts his shaggy paws;
High o'er the north the golden orb shall roll,
And blaze eternal round the wandering pole.
So Argo, rising from the southern main,
Lights with new stars the blue ethereal plain;
With favoring beams the mariner protects,
And the bold course, which first it steer'd, directs."

SMITH'S HISTORY.

 We invite the reader to the *Notice* respecting *Smith's History of the Settlement of Virginia*. We are delighted that the present Editor has taken it in hand. It is a curious, scarce and valuable memoir; and it is peculiarly worthy of encouragement. The first copy we saw was unaccompanied by *Smith's Adventures*, written by himself—but those *Adventures* are far more romantic and interesting than even the *History* itself—Unquestionably the two parts ought to go together—as they do in the last copy we have seen. Unquestionably the subscribers ought to call for them both.—Then they will have a complete picture of one of the most gallant spirits that "ever lived in the tide of times."

NOTICE.

It is requested that the names of the Gentlemen who intend to take copies of *Smith's History of the Settlement of Virginia*, &c. may be returned as speedily as possible to W. W. GRAY, printer, Richmond.

The Editor informs the public, that since the proposals for publication was issued, he has been so fortunate as to procure a complete copy of the history, with all the maps in perfect preservation. To this is prefixed an account of *Smith's* early adventures in various parts of the world, his heroic exploits in the wars against the Turks, &c. written by himself, in the true style of ancient simplicity and gallantry. The addition of this to the history originally proposed to be published, will increase the expence about fifty cents on the set. The Editor is persuaded that every literary gentleman, and every one who cherishes

Smith's memory as becomes an American, will be happy to have this additional matter at this increase of expence. But still can one venture, in these times, on a change in the terms of publication? Some expression of the public wish on this subject is called for. Will gentlemen who have subscribed, adopt some measures which will at once let the Editor know whether they prefer the history first proposed, or the history with the adventures of Smith prefixed? Any communication on this subject addressed to the printer, *W. W. Gray*, will be duly attended to.

[We are so much gratified to learn, that this most rare and valuable History is to be rescued from the "mouldering ruins" of time, in which it had nearly perished, that we here take the liberty of offering, unsolicited, to receive subscriptions, gratuitously, for any copies of the work which persons in this city may wish to have. For ourselves, we would sooner take it at double its price, than lose a leaf of it.—Give us every fragment that can be "gathered up" from the pen of Captain SMITH.

Editor American Farmer.]

Extracts from an act of the Virginia Assembly, passed the 22d February, 1817.

1st. Be it enacted, That any person who shall hereafter apprehend any runaway slave attempting to cross the Potomac, and deliver him to his master, or any person authorised to receive him, shall be entitled to a reward of twenty dollars, and mileage as heretofore allowed by law.

2d. And be it further enacted, That any person who shall hereafter apprehend any runaway slave, belonging to any person residing within this commonwealth, at any place in the states of Maryland and Kentucky, shall be entitled to a reward of twenty five dollars; at any place in the states of Delaware, Pennsylvania, New Jersey, or New York, or in the state of Ohio, to a reward of fifty dollars; and in all cases of the apprehension of a runaway slave, in any of the states aforesaid, the person apprehending shall be entitled to receive twenty five cents for every mile he shall necessarily convey such runaway. The distance to be proved by oath, &c.

TRANSPORTATION OF THE MAIL.

The following interesting statement, relative to the United States' Mail Establishment, is taken from an excellent address of Colonel *Richard M. Johnston*, of Kentucky, to his constituents—published in the Kentucky Gazette of the 16th April last.

"Among the departments of government, the post office department claims a rank with the most important, for general utility and convenience. This astonishing machine, like arteries and veins to the body politic, extends through every portion of our wide domain, connecting its various parts, and diffusing life and vigor to the whole. The increase of this department has been more rapid in its progress than that of any other in the government. In 1798 there were but 195 post offices in the United States. There are now about 3800.—

The whole length of the post roads in the U. States, is about 40,000 miles, running in various directions, and hearing intelligence to every community in the Union. The mail, in all its diversified movements, is transported nearly 8,000,000 of miles in a year:—more than 150,000 miles every week—making a distance nearly equal to a circuit round the globe each day—with an average of about one post office to every fifteen miles. The annual amount of postage is about a million of dollars, and the annual allowance to 3800 post masters is about 300,000 dollars. The annual expence of transporting the mail, amounts to nearly 700,000 dollars, to 900 contractors. As the object of this establishment is public and individual convenience, it has not entered into the views of the government to make it a source of revenue, which would, by levying a tax upon friendship and intelligence, impair the strongest bond of our union. While the government is furnished with the means of speedy and convenient communication with its agents in every part of the nation, distant friends may hold frequent and familiar conversation—and intelligence of every description is diffused among all classes of citizens, and in every neighbourhood of the union, through the medium of this establishment."

A new improvement in propelling Boats by Horse power.

The subscriber who is sole Patentee of the plan now in use, respectfully calls the attention of the merchants and citizens in general of Baltimore, to the following observations on his invaluable invention.

This principle has been in use three or four years at New York, Philadelphia, and other places. Commodore Porter, had one constructed at Georgetown, which was not on the same plan of those which I have built at Philadelphia.

I now feel confident that I can propel a Boat of the same dimensions as the Steam Boat Virginia, with 17 or 18 horses, with the same velocity with which the Virginia now moves, for the space of 24 hours, and as can be clearly demonstrated, with less than one fourth the cost, she (the Virginia) being at the daily expence of from 60 to 90 dollars, while under way—whereas my Boat should only incur the expenditure of 15 dollars per diem. A Boat on my construction, including horses and all apparatus complete, can be built for 10 to 12,000 dollars, when a Steam Boat of the same measurement with her apparatus, will cost from 40 to 50,000 dollars. Another very forcible argument is, that my Boat will carry double the quantity of freight. It is the opinion of many of the most intelligent gentlemen of this city, that this is the only true plan that can succeed for great distances. The unlimited advantages, which may accrue by adopting this improved method, being too numerous for insertion, I shall only add, that those gentlemen who are desirous of seeing our country flourish, and will do me the favor of calling at Mr Sheeve's Wheel-wright shop, west Pratt street, near the Three Tun tavern, can see a model of the machinery.

W. HART, Patentee.

ON DUELLING.

DOCT. FRANKLIN TO DOCT. PERCIVAL.

Passy, July 14, 1784.

I received yesterday by Mr. White, your kind letter of May 11th, with the most agreeable present of your new book.* I read it all before I slept, which is a proof of the good effects your happy manner has of drawing your readers on, by mixing little anecdotes and historical facts with your instructions. Be

pleased to accept my grateful acknowledgments for the pleasure it has afforded me.

It is astonishing that the murderous practice of duelling, which you so justly condemn, should continue so long in vogue. Formerly, when duels were used to determine law-suits, from an opinion that Providence would in every instance favor truth and right, with victory, they were excusable. At present, they decide nothing. A man says something, which another tells him is a lie. They fight; but whichever is killed the point in dispute remains unsettled. To this purpose they have a pleasant little story here. A gentleman in a coffee-house desired another to sit "further from him." "Why so?" "Because, sir, you stink." "That is an affront and you must fight me." "I will fight you if you insist upon it; but I do not see how that will mend the matter, for if you kill me, I shall stink too; and if I kill you, you will stink, if possible, worse than you do at present." How can such miserable sinners as we are, entertain so much pride, as to conceive that every offence against our imagined honor merits death? These petty princes in their own opinion, would call that sovereign a tyrant who should put one of them to death for a little uncivil language, though pointed at his sacred person: Yet every one of them makes himself judge in his own cause, condemns the offender without a jury, and undertakes himself to be the executioner.

With sincere and great esteem, I have the honor to be, sir, your most obedient, and most humble servant,
B. FRANKLIN.

P. S. Our friend, Mr. Vaughan, may perhaps communicate to you some conjectures of mine relating to the cold of last winter, which I sent him in return for the observations on cold of professor Wilson. If he should, and you think them worthy so much notice, you may show them to your Philosophical Society,† to which I wish all imaginable success. Their rules appear to me excellent.

* *Moral and literary dissertation, 2d edition.*

† *The Philosophical Society of Manchester, of which Dr. Percival was one of the principal founders and ornaments.*

To the Editor of the Enquirer.

Sir—Under the belief that it is your wish to encourage Agriculture as far as it is in your power, several of your subscribers are induced to request that you would, through the medium of your widely circulated paper, make the enquiry where a few seed of the *Guinea Grass* can be obtained. Doct. Brown, of Tennessee, made a communication respecting this grass to the Philadelphia Agricultural Society, in 1813.* Your compliance will oblige yours,

A SUBSCRIBER.

Surry, July 31, 1819.

Should any reader be able to give the information required, it will gratify the Editor to lay it before the public.

* This communication is highly interesting, and shall be offered to our readers in the next number of the *American Farmer*. In the meantime, we earnestly request that if it should be in the power of any of our subscribers to procure some of the *Guinea grass* seed, they would be good enough to put a few, say half an ounce, in a letter, and address it by mail, to the editor of the *American Farmer*, with such notices of its growth, qualities, uses, and product as they may think worthy of remark.

ST. LOUIS, MO. JUNE 30.

Sans Neif, a chief and one of the principal counsellors of the Great Osage tribe, arrived here a few days ago on his embassy from his nation to the President, to lay before his excellency, on his arrival, the difficulties which at present exist between them and the government, and its officers, &c. &c.

Missouri Expedition.—This expedition has not yet sailed, but is daily expected to proceed. On Sunday the steam boats Johnston and Expedition, proceeded from the mouth of Missouri to Belle Fontaine in

about two hours, and stemmed the current with great ease.

Last week, Col. Henry Atkinson, on seeing the ferry boats worked by wheels, immediately conceived the idea of applying them to the barges, bound up the Missouri with United States' troops, stores, &c. In about three days he had one of the barges rigged with wheels, and a trial made, in which she run up the Missouri about two miles and back, in 30 minutes.

It is highly gratifying that the government has placed this prompt, decisive, and distinguished officer, in the command of this important station. This improvement which he has put in these barges will prove of vast importance to the government, both in expedition and saving of expence.

BUFFALO, July 27.

His Excellency Gov. Clinton, and the Canal Commissioners are now, we understand, in the vicinity of Batavia, and may be expected to arrive here in a few days. The important question relative to the location and construction of a Harbor at this place, will be definitely concluded upon by them previous to their departure.

We learn that the Boundary Commissioners have nearly completed the survey of the Niagara river, and will start for the west in a few days, in the government schooner Ghent, which arrived here on Sunday from Erie.

ALBANY, August 2.

Hay and Garden Vegetables.—We understand that many of our farmers in this neighborhood, are already shipping their new hay to New York, where it sells from \$15 to \$17 50 a ton; while in Albany it is almost a drug at one third of the price. Our gardeners also having learned that the dry weather has greatly injured the gardens in the vicinity of New York, are sending large supplies of our excellent vegetables to that market.

THE FARMER.

BALTIMORE, FRIDAY, AUGUST 13, 1818.

Our object in copying the Act for the encouragement of Agriculture, passed by the Legislature of the State of New York, is to exhibit to the Legislature of Maryland, an example worthy of their imitation. We must confess, that our anticipations are not sanguine. This state is so cut up by conflicting local views, and so perpetually distracted by party spirit, that we fear nothing will be done upon a great and liberal scale to promote the cultivation and improvement of its internal resources.

If half the time, money and talents, that have been thrown away in establishing Banks and Lotteries, and in putting some men in, and tumbling other men out of office, had been devoted during the last fifteen or twenty years to the promotion of the interests of Agriculture—opening Roads—improving the navigation of Creeks and Rivers, and the encouragement of Education and the Useful Sciences, how much more proud and enviable would now be the reputation of the state and the actual condition of its population.

Under the operation of a wise internal policy, having for its object the advancement of Agriculture and of the good people, instead of the acquirement of ephemeral power and petty office—we should not long witness the degrading spectacle of ship loads of emigrants arriving in this state—going to clear farms in the western wilderness, while so much land remains a barren waste, not one hundred miles from this populous city.

Let but the Legislature hold out that encouragement to agricultural pride and emulation which has been extended to them by the governments of New York and Massachusetts—and we shall not suffer under the odium of having it said that—the quality of the land considered, the average product of Maryland is far below that of other states to which nature

has been so much less bountiful. We trust among the first acts of the next Legislature of Maryland, will be one for the encouragement of Agricultural Societies.

POETRY.

Selected for the Boston Gazette

Messrs. Editors—If the following little piece of poetry does but give half the pleasure to your readers that it has given to me, I think they will thank you for publishing it. Would that more of that sweet and lovely spirit of contentment, which in a wife breathes so great a charm around the connubial state, were to be found in all the walks of life. That spirit which makes every thing delightful and every thing happy, and blossoms even sorrow itself into joy.

THE PEASANT AND HIS WIFE.

HE. THE long, long day, again has pass'd
In sorrow and distress:
I strive my best—but strive in vain,
I labor hard—but still remain
Poor and in wretchedness.

SHE. Nay, we have health—you love your wife—
And she returns its flame;
Want still is absent from our cot,
God gives us breath to sooth our lot,
What more can you desire?

HE. I wish'd to earn a little sum,
My dearest wife for thee;
I wish'd, by toiling day and night,
To gain some wealth that might requite
Thy fond fidelity.

SHE. No wealth repays fidelity,
Nor gold nor monarch's crown;
My heart which doth to thee incline,
Finds all its love repaid by thine,
And smiles at fortune's frown.

HE. But ah! to see thee live in want,
It fills my soul with care,
That thou so noble, just and good,
Must slave and toil for daily food,
That drives me to despair.

SHE. I gaily work [God knows my heart]
Contented at your side:
More joys than wealth can give I prove,
To share thy sorrows and thy love;
Thy faithful heart's my pride.

HE. But who, when I am snatch'd from thee
Will hush thy trembling sighs?
And when our babe shall weeping say,
"O mother! give me bread I pray!"
Who then will heed its cries?

SHE. God! whom the worm and sparrow shields,
Man in his need can aid:
He'll be my comfort when thou'rt fled—
The orphan's sire will give him bread—
O! be his will obey'd.

HE. Wife of my heart, how great thou art!
Thy love is all my wealth;
I feel so proud of one like thee—
Thy love and thy fidelity
Inspire me with fresh zeal.

AGRICULTURE.

Thou first of arts, source of domestic ease,
Pride of the land, and patron of the seas,
Thrift Agriculture! lend thy potent aid;
Spread thy green fields where dreary forests shade.
Where savage men pursue their savage prey,
Let the white flocks in verdant pastures play:
From the bloom'd orchard and the showery vale
Give the rich fragrance to the gentle gale;
Reward with ample boon the laborer's hand,
And pour thy gladdening bounties o'er our land.
Columbia's sons, shun not the rugged toil;
Your nation's glory is a cultur'd soil!
Rome's Cincinnatus, of illustrious birth,
Increas'd his laurels while he till'd the earth;
E'en China's Monarch lays his sceptre down,
Nor deems the task unworthy of the crown.

MISCELLANY.

Harford (Mirror) August 2.

WELLS' PRINTING PRESS.

We are pleased to state that Mr. John I. Wells, an ingenious mechanist of this city, has at length so far perfected his PATENT LEVER PRINTING PRESS, as to offer it publicly for sale. We witnessed it in operation on Thursday last, and perhaps some account of it will be acceptable to our brethren of the type.

Mr. Wells states, that from the application of the power of levers end-wise, in expressing linseed oil, he became fully convinced that it exceeded all other mechanical powers. It is now about four years since he made his first experiment upon an old press—Since that time he has been constantly making experiments upon every part of the press which admitted of improvement, and he has succeeded in every effort. Perhaps it may be deemed high ground, after the deserved reputation which Mr. Clymer's presses have acquired—but we are nevertheless of the opinion [and we have witnessed the operations of both for more than two years] that Mr. Wells' press excels his. The construction of it is more simple and compact, and its impression is very powerful and even.

In order that a proper estimate of the power of this press may be formed, it may not be improper to subjoin a short description of it. The frame, platen, and several other parts, are of cast iron; and the weight of the cast and wrought iron is about 1500 lbs. The power is obtained by two upright levers, footing in the centre of the platen; within a strong circle upon the plate. These levers are fifteen inches in length, one and three fourths of an inch square in the body, and four inches wide at the ends. They move in sockets of the semicircle of half an inch; falling back in the centre, two inches, from a perpendicular line—this admits of the rising of the platen. They are governed in this joint, and forced nearly to a straight line by two horizontal levers, attached in connection with the arm or bar, to the back part of the press; which, in gaining the power, are brought nearly to a straight line. The platen is raised by a spindle, suspended upon a balance lever, by a balance weight. It is governed in its movements by grooves attached to the inner edge of the body of the press.

The manner of hanging the tympan, and securing the girths, is also new. Every part exposed to friction is steeled.

The present prices of these presses are from 325 to 350 dollars, as they differ in size, which we think cheap, considering the cost of the iron, the amount of labor, together with their ease and durability.

SALES OF COUNTRY PRODUCE,

Ascertained by actual Sales, and reported for the American Farmer, by W. H. De Wright—Commission Merchant, Baltimore.

TOBACCO.—Montgomery County, \$8 50 cts. to \$13, sales. 2 hds. crop, a \$10—3 do. do. a \$9—1 do. second, \$7, Calvert county, sold by J. SPICKNALL.

WHITE WHEAT, 104 to 106 cts.—Red, do. 98 cts to \$1—Corn, 50 to 54—Oats, 40 to 45 Rye, 50 to 55 cts. per bushel. Beef, best Butcher's, 10 to 12 cts. Ch. cks, per doz: 250 cts. to \$3—Veal, per lb. 10 to 12 cts. best pieces—Mutton, 6 to 8—Suet Beef, 8 to 10—Pork 8 to 10.—Eggs, per doz. 18 cts.—Butter, per lb. 25 to 37½—Potatoes, new crop, per peck, 37 to 50 cts—Onions, per peck. 37 to 50—Hay, per ton, \$17—Straw, do \$12.

No alteration in the prices of North Carolina Staples, except in the article of Tar, which is selling for \$1 75 cts. per bbl.

PRINTED EVERY FRIDAY AT \$4 PER ANNUM,

FOR JOHN S. SKINNE, EDITOR.

At the south-west corner of Market and South streets.
BALTIMORE.

EBENEZER FRENCH, PRINTER.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, August 20, 1849.

NUM. 21.

AGRICULTURE.

Mr. Madison's Address.

AN ADDRESS DELIVERED BEFORE THE AGRICULTURAL SOCIETY OF ALBEMARLE, [VIRG.] ON TUESDAY, MAY 12, 1819. By Mr. Madison President of the Society.

It having pleased the Society to name me for their presiding member, I feel it a duty, on my first appearing among you, to repeat my acknowledgments, for that honorary distinction; with the assurances of my sincere desire to promote the success of an establishment, which has in view so valuable an object as that of improving the agriculture of our country.

The faculty of cultivating the earth, and of rearing animals, by which food is increased beyond the spontaneous supplies of nature, belongs to man alone. No other terrestrial being has received a higher gift than an instinct, like that of the Beaver or the Ant, which merely hoards, for future use, the food spontaneously furnished by nature.

As this peculiar faculty gives to man a pre-eminence over irrational animals; so, it is the use made of it by some, and the neglect of it by other communities, that distinguish them from each other, in the most important features of the human character.

The contrast between the enlightened and refined nations on some parts of the earth, and the rude and wretched tribes on others, has its foundation in this distinction. Civilization is never seen without agriculture, nor has agriculture ever prevailed, where the civilized arts did not make their appearance.

But, closely as agriculture and civilization are allied, they do not keep pace with each other. There is probably a much higher state of agriculture in China and Japan, than in many other countries far more advanced in the improvements of civilized life. It is surely no small reproach to the latter, that with so great a superiority in science, and in the fuller possession of the auxiliary arts, they should suffer themselves to be outstripped in the very art by which both are essentially distinguished from the brute creation.

It must not be inferred, however, from the capacities and the motives of man, for an artificial increase of the productions of the earth, that the transition from the hunter, or even the herdsman state, to the agricultural is a matter of course. The first steps in this transition, are attended with difficulty; and what is more with disinclination.

Without a knowledge of the metals, and the implements made of them, the process of opening and stirring the soil, is not an easy operation; though one perhaps not requiring more effort and contrivance, than produced the instruments used by savages in war and in the chase.

And that there is a disinclination in human na-

ture to exchange the savage for the civilized life, cannot be questioned. We need not look for proofs beyond our own neighbourhood. The Indian Tribes have ever shown an aversion to the change. Neither the persuasive examples of plenty and comfort derived from the culture of the earth by their white brethren, nor the lessons and specimens of tillage placed in the midst of them, and seconded by actual sufferings from a deficient and precarious subsistence, have diverted them from their strong propensities and habitual pursuits. In the same spirit, they always betray an anxious disposition to return to their pristine life, after being weaned from it by time, and apparently moulded by intellectual and moral instruction, into the habits and tastes of an agricultural people. A still more conclusive evidence of the bias of human nature, is seen in the familiar fact, that our own people nursed and reared in these habits and tastes, easily slide into those of the savage, and are rarely reclaimed to civilized society with their own consent.

Had the Europeans, on their arrival, found this continent destitute of human inhabitants, whose dangerous neighbourhood kept them in a compact and agricultural state, and had their communication with the countries they left, been discontinued, they might have spread themselves into the forests where game and fruits, would have abounded; and gradually forgetting the arts no longer necessary to their immediate wants, have degenerated into savage tribes.

An admired historian,* in his inquiry into the origin of the American Savages, represents any such degeneracy as impossible. He lays it down as a certain principle, that the necessary arts of life, when once introduced among a people, can never be lost, that the dominion over inferior animals once enjoyed, will never be abandoned; and that America consequently, must have been peopled from a country as uncivilized as itself. Yet he derives the American Savages, generally, from the Tartars, whose example must have taught them the use of certain animals, for which a substitute might have been found in the Bison or Buffalo at least (the same animal with the cow) if not in the Elk, the Moose, or the Caraboo. And he regards the Esquimaux, a tribe distinguished in several respects, for their rude condition, as descendants from the Greenlanders, of the same modes of life with themselves, who were a colony from Norway, planted in the 9th century; an epoch prior to which the Norwegians had made such progress in the arts, as to be capable of formidable maritime expeditions.—The Greenland Colony therefore, must have undergone a degeneracy from the condition of its parent country. Without supposing the possibility of a transition from a better state of human society, to a savage state, how would the learned historian have accounted for the introduction of the savage state at all?

* Dr. Robertson.

The bent of human nature may be traced on the chart of our own country. The manufacturer readily exchanges the loom for the plough, in opposition often, to his own interest, as well as to that of his country. The cultivator, in situations presenting an option, prefers to the labours of the field, the more easy employment of rearing a herd. And as the game of the forest is approached, the hunting life displays the force of its attractions. Where do we behold a march in the opposite direction; the hunter becoming the herdsman; the latter a follower of the plough; and the last repairing to the manufactory or the workshop?

Such indeed is the fascination of that personal independence which belongs to the uncivilized state, and such the disrelish and contempt of the monotonous labour of tillage, compared with the exciting occupations of the chase, or with the indolence enjoyed by those who subsist chiefly on the mere bounties of nature, or on their migratory flocks, that a voluntary relinquishment of those latter modes of life, is little to be expected. We certainly perceive nothing in the character of our savage neighbours, from which it could be inferred, that even the germs of agriculture observed in their spots of maize, and a few other cultivated plants, would ever be developed into the extent implied by an agricultural life. To that little resource combined with the game furnished by the forests and by the lake or the stream, their population and habits are adjusted. There may be said, in fact, to be a plenum of the former; because it is commensurate with their food—and this cannot be increased without a change of habits, which being founded in natural propensities, do not change of themselves.

The first introduction of agriculture among a savage people appears, accordingly, never to have taken place without some extraordinary interposition. Where it has not been obtruded by colonies transplanted from agricultural countries, as from Phœnicia and Egypt into Greece, and from Greece herself, amongst her savage neighbours, the revolution has proceeded from some individual whose singular endowments, and supernatural pretensions, had given him an ascendancy for the purpose. All these great reformers, in ancient times, were regarded as more than men, and ultimately worshiped as gods. A very remarkable example of modern date is found in the revolution from the savage to the agricultural state, said to have been brought about by Manco Capac, among the Peruvians, to whom he represented himself as the offspring of the sun.

Agriculture once effectually commenced, may proceed, of itself, under impuises of its own creation. The mouths fed by it increasing, and the supplies of nature decreasing, necessity becomes a spur to industry, which finds another spur, in the advantages incident to the acquisition of property in the civilized state. And thus a progres-

sive agriculture, and a progressive population ensue.

But although no determinate limit presents itself to the increase of food, and to a population commensurate with it, other than the limited productiveness of the earth itself, we can scarcely be warranted in supposing that all the productive powers of its surface can be made subservient to the use of man, in exclusion of all the plants and animals not entering into his stock of subsistence. that all the elements and combinations of elements in the earth, the atmosphere and the water, which now support such various and such numerous descriptions of created beings, animate and inanimate, could be withdrawn from that general destination, and appropriated to the exclusive support and increase of the human part of the creation; so that the whole habitable earth should be as full of people, as the spots most crowded now are or might be made, and as destitute as those spots, of the plants and animals not used by man.

The supposition cannot well be reconciled with that symmetry in the face of nature, which derives new beauty from every insight that can be gained into it. It is forbidden also, by the principles and laws which operate in various departments of her economy, falling within the scope of common observation, as well as within that of philosophic researches.

The earth contains not less than thirty or forty thousand kinds of plants; not less than six or seven hundred of birds; not less than three or four hundred of quadrupeds; to say nothing of the thousand species of fishes. Of reptiles and insects, there are more than can be numbered. To all these must be added, the swarms and varieties of animalcules and minute vegetables not visible to the natural eye, but whose existence is probably connected with that of visible animals and plants.

On comparing this vast profusion and multiplicity of beings with the few grains and grasses, the few herbs and roots, and the few fowls and quadrupeds, which make up the short list adapted to the wants of man; it is difficult to believe that it lies with him, so to re-model the work of nature, as it would be remodelled, by a destruction, not only of individuals, but of entire species, and not only of a few species, but of every species, with the very few exceptions which he might spare for his own accommodation.

Such a multiplication of the human race, at the expense of the rest of the organized creation, implies that the food of all plants is composed of elements equally and indiscriminately nourishing all, and which consequently may be wholly appropriated to the one or few plants best fitted for human use.

Whether the food or constituent matter of vegetables, be furnished from the earth, the air or water; and whether directly, or by either, through the medium of the others, no sufficient ground appears for the inference that the food for all is the same.

Different plants require different soils; some flourishing in sandy, some in clayey; some in moist, some in dry soils; some in warm, some in cold situations. Many grow only in water—and a few subsist in the atmosphere. The forms, the textures and the qualities of plants are still more diversified. That things so various and dissimilar

in their organizations, their constitutions and their characters, should be wholly nourished by, and consist of precisely the same elements, requires more proof than has yet been offered.

A case which has been relied on to prove that different foods are not necessary for different plants, is that of grafting or inoculating one kind of plant on another kind; the sap obtained by the stock for itself, being found to feed and perfect the graft. But this operation has its limits. It does not extend beyond plants having a certain affinity. The Apple Tree may be planted on the Pear or the Quince. It will not succeed on the Peach or the Cherry. If the cases prove that the same food suffices for the Apple and the Pear, they equally prove that different foods are required for the Apple and the Peach. It is said even, that the fruit from the Peach graft on the Almond, is not precisely the same with that from a Peach graft on a Plum.

It may be offered as another argument to the same effect, that all animal and vegetable decompositions answer indiscriminately as manures. The fact is not precisely so. Certain manures succeed best with certain plants. It is true, nevertheless, that animal and vegetable substances in a decomposed state, are generally manures for plants. Fish, even an animal from the water, is successfully used as a manure for Indian Corn and other crops. But this and similar examples prove only, that some ingredients are the same in all animals and plants, not that all the ingredients in each are the same.

The chemist, though as yet a fellow student as much as a preceptor of the agriculturist, justly claims attention to the result of his processes. From that source we learn that the number of known elements, not yet decomposable, is between forty and fifty; that about seven or eight belong to the organs of plants, that different elements enter into the composition of the same plant; and that they are combined in different numbers and in different proportions, in different plants. Supposing then, as must be supposed, that these different elements, in their actual quantities and proportions, are adapted to the quantities and the proportions of the existing varieties of plants; it would happen in so great a change as that in question, with respect to the number and variety of plants, that the quantities and the proportions of the elements, would not be adapted to the particular kinds and numbers of plants retained by man for his own use. Like the types of the Alphabet, apportioned to the words composing a particular book, when applied to another book materially different in its contents, there would be, of some a deficiency, of others, a useless surplus.

Were it less difficult to admit that all the sources of productiveness could be exclusively appropriated to the food of man, is it certain that an obstacle to his indefinite multiplication would not be encountered in one of the relations between the atmosphere and organized beings?

Animals, including man, and plants may be regarded as the most important part of the terrestrial creation. They are pre-eminent in their attributes; and all nature teems with their varieties and their multitudes, visible and invisible. To all of them, the atmosphere is the breath of life. Deprived of it, they all equally perish. But it answers this purpose by virtue of its ap-

propriate constitution and character.—What are these?

The atmosphere is not a simple but a compound body.—In its least compound state, it is understood to contain, besides what is called vital air, others noxious in themselves, yet without a portion of which, the vital air becomes noxious. But the atmosphere in its natural state, and in its ordinary communication with the organized world, comprises various ingredients or modifications of ingredients derived from the use made of it, by the existing variety of animals and plants. The exhalations and perspirations, the effluvia and transpirations of these are continually charging the atmosphere with a heterogenous variety and immense quantity of matter which together must contribute to the character which fits it for its destined purpose, of supporting the life and health of organized beings. Is it unreasonable to suppose, that if, instead of the actual composition and character of the animal and vegetable creation, to which the atmosphere is now accommodated, such a composition and character of that creation were substituted, as would result from a reduction of the whole to man and a few kinds of animals and plants; is the supposition unreasonable, that the change might essentially affect the aptitude of the atmosphere for the functions required of it; and that so great an innovation might be found, in this respect, not to accord with the order and economy of nature?

The relation of the animal part, and the vegetable part of the creation to each other, through the medium of the atmosphere, comes in aid of the reflection suggested by the general relation between the atmosphere and both. It seems to be now well understood, that the atmosphere when respired by animals becomes unfitted for their further use, and fitted for the absorption of vegetables; and that when evolved by the latter, it is refitted for the respiration of the former: an interchange being thus kept up, by which this breath of life is received by each, in a wholesome state, in return for it in an unwholesome one.

May it not be concluded from this admirable arrangement and beautiful feature in the economy of nature, that if the whole class of animals were extinguished, the use of the atmosphere by the vegetable class alone, would exhaust it of its life-supporting power; that in like manner, if the whole class of vegetables were extinguished, the use of it by the animal class alone, would deprive it of its fitness for their support? And if such would be the effect of an entire destruction of either class, in relation to the other, the inference seems to press itself upon us, that so vast a change in the proportions of each class to the other, and in the species composing the respective classes, as that in question might not be compatible with the continued existence and health of the remaining species of the two classes.

The immensity of the atmosphere, compared with the mass of animals and vegetables, forms an apparent objection only to this view of the subject. The comparison could at most suggest questions as to the period of time necessary to exhaust the atmosphere of its unrenowned capacity to keep alive animal or vegetable nature, when deprived, either, of the support of the other. And this period contracts itself at once to the imagination, when it is recollected that the immensity of the atmosphere is the effect

of its elasticity and rarefaction. We know from the barometer, that condensed to the specific gravity of Mercury, its rise above the surface of the earth would be but about thirty inches; and from the well pump, that condensed to the specific gravity only of water, which is nearly the same with that of the human body, its rise would be little more than as many feet; that is, a little more than five times the human stature. It is found that a single human person employs in respiration not less than sixteen or eighteen times his own weight of common air, in every 24 hours. In different degrees, some greater, some less, the case is the same with most other animals. Plants make a correspondent use of air for their purposes.

Other views of the economy of nature coincide with the preceding. There is a known tendency in all organized beings to multiply beyond the degree necessary to keep up their actual numbers. It is a wise provision of nature—1, to guard against the failure of the species: 2, to afford in the surplus, a food for animals whether subsisting on vegetables, or on other animals which subsist on vegetables. Nature has been equally provident in guarding against an excessive multiplication of any one species which might too far encroach on others, by subjecting each, when unduly multiplying itself, to be arrested in its progress by the effect of the multiplication—1, in producing a deficiency of food; and where that may not happen,—2, in producing a state of the atmosphere unfavourable to life and health. All animals, as well as plants, sicken and die in a state too much crowded. It is the case with our domestic animals of every sort, where no scarcity for food can be the cause. To the same laws mankind are equally subject. An increase, not consisting with the general plan of nature, arrests itself.—According to the degree in which the number thrown together exceeds the due proportion of space and air, disease and mortality ensue. It was the vitiated air alone which put out human life in the crowded hole of Calcutta. In a space somewhat enlarged, the effect would have been slower, but not less certain. In all confined situations, from the dungeon, to the crowded workhouses, and from these, to the compact population of overgrown cities, the atmosphere becomes in corresponding degrees unfitted by reiterated use, for sustaining human life and health. Were the atmosphere breathed in cities not diluted, and displaced by fresh supplies from the surrounding country, the mortality would soon become general.—Were the surrounding country thickly peopled and not refreshed in like manner, the decay of health, though a later, would be a necessary consequence. And were the whole habitable earth covered with a dense population, wasteful maladies might be looked for, that would thin numbers into a healthy proportion.

[To be continued.]

Guinea Grass.

Observations on Guinea Grass, by S. Brown, M.D. of Natchez, Mississippi Territory.

READ, July 13th, 1813.

Six years ago, I saw one or two plants of the Guinea grass, in the garden of M. Treme, near

the city of New-Orleans; but as I was, at that time, no way concerned in agricultural pursuits, it attracted little of my attention. Last autumn, I again met with it, in great perfection, at Mr. Munson's, a few miles north of Fort Adams.—Although Mr. Munson had not more than half a dozen of plants, he obligingly furnished me with a pint of seed, which I shared with my friends, in this territory, in Tennessee and Kentucky.—Mr. Abner Green of Adams county, had for two or three years, cultivated this luxuriant grass, but I cannot learn that any person except Mr. Munson had followed his example. From two acres of this grass, Mr. Green fed from thirty to forty or fifty animals every day during the summer season.

As neither Mr. Green nor Mr. Munson had any knowledge of the history of this grass, and as I had determined to cultivate it, I sought for further information in such books as were within my reach.

In Bryan Edward's, History of Jamaica, we have the following account of it.

"Guinea grass may be considered as next to the sugar cane, in point of importance, as most of the grazing farms or pens* throughout the Island, were originally created, and are still supported chiefly by means of this invaluable herbage. Hence the plenty of horned cattle both for the butcher and planter, which is such, that few markets in Europe can furnish beef at a cheaper rate or of better quality than Jamaica. Perhaps the settlement of most of the north side parishes is wholly owing to the introduction of this excellent grass, which happened about 50 years ago, the seeds having been brought from the coast of Guinea, as food for some birds which were presented to Mr. Ellis, chief justice of the Island. Fortunately the birds did not live to consume the whole stock, and the remainder being carelessly thrown into a fence grew and flourished, and it was not long before the eagerness displayed by the cattle to reach the grass, attracted Mr. Ellis' notice, and induced him to collect and propagate the seeds; which now thrive in some of the most rocky parts of the Island, bestowing verdure and fertility on the lands which otherwise would not be worth cultivation."—Vol. 1. page 185.

From Willich's Domestic Encyclopedia, I make the following extract.

"Guinea grass† a valuable species of herbage

* Many of the pens of Guinea grass, in Jamaica, are of great extent; some contain 7 or 800 acres. I am informed by gentlemen who have lately observed it in that Island, that it is perennial, and that it forms a turf, which is divided and set out for the purpose of extending the pasture grounds. Some of it was brought from Jamaica to New Orleans, in June last, by captain Califfe, who was highly gratified at finding it growing in such perfection in Natchez. He had been informed in Jamaica that it was difficult to procure seed that would vegetate. I gave him a quantity of it for his friends in N. Carolina.

† I could have wished that the author of the Domestic Encyclopedia, had given us the botanical name and characters of this plant. For want of books I am unable to supply this deficiency. [A botanical description is subjoined to this paper.] Bruce in his Travels in Egypt and

thus denominated as it was first discovered on the coast of Guinea, whence it was brought to Jamaica and afterwards imported into this country—(England.)

In point of real utility, this plant ranks in Jamaica next to the sugar cane; for the breeding farms throughout the Island were originally established and are still supported chiefly by means of the Guinea grass which bestows verdure and fertility on lands that would otherwise not deserve to be cultivated. About ten years since it was introduced into the East Indies, where it is now successfully cultivated, and grows to the height of seven feet; it admits of being frequently cut, and makes excellent hay: cattle eat it both in a fresh and dry state with great avidity; hence the culture of this valuable herbage has been strongly recommended to the farmers of Cornwall and Devonshire.—"

The subsequent remarks on the culture of this grass are by the late H. Laurens, of S. Carolina, and added to the foregoing by the American editor of that work.

In the last spring I procured from Jamaica three half pints of Guinea grass seed which I planted in drills of one fourth of an acre of *very indifferent land*. The seed sprang, and soon covered the ground with grass, four feet high and upwards. Being desirous of saving as much seed as possible, I cut one bundle of grass for horses: they ate it all with great avidity.* In August I took one of the grass roots and divided it into 28 parts, which were immediately replanted; every part took root, and the whole are now growing very finely, and seeding. I am of opinion this grass will make the best pasture we can wish for. From former experience I have reason to believe the Guinea grass is perennial. It is easily managed, requires but one good hoeing, after which it will take care of itself. Domestic Encyclopedia, article Guinea grass."

With this little stock of information I commenced my experiments. In the month of April, I prepared a piece of ground in the city of Natchez, and planted the seed I had reserved for my own use, in holes two feet distant from each other. The season proving unusually cold, and torrents of rain falling almost every day, all our small seeded crops were either totally lost, or materially injured. The vegetation of the Guinea grass seed was so much retarded, that until some time in May, I could discover no young plants.† They at length made their appearance,

Abyssinia mentions Guinea grass, but gives no account of its character or properties. I have conversed with many natives of Africa, who recollect to have seen it in many parts of that continent.

* It is curious to calculate the quantity which an industrious planter can obtain from one seed. Suppose that each of the 28 divisions of the root produced less than one half the number of stalks I obtained from one seed, for instance 50 stalks, this will give 1400 stalks in one season, from a single seed. On good soil, in a favourable year, these will all attain the height of at least seven feet.

† Persons who have resided in the vicinity of Natchez for 37 years, do not recollect to have seen frost in May before this year, (1812.) On

in some parts of the lot. But some seeds remained six weeks in the earth, before they vegetated: and most of those gentlemen, to whom I had given seed, supposing them to have been gathered too green, appropriated their grounds to other purposes, or suffered the weeds to smother the young grass.

As soon as I could designate the Guinea grass, I had the ground well hoed, and where two or more plants came up together, I had the supernumeraries transplanted to spots where the seed had failed.—When the plants attained such a size as would admit of it, I took them up, and dividing the roots, set them out when the soil was wet, and in this way filled up the vacancy in the ground I had appropriated to my experiments.

At Percyfield, near Fort Adams, Mr. Oglesby, my manager, planted about the eighth of an acre of *very fertile land*, with plants obtained from Mr. Munson, in the first and second week of May. They grew without any trouble except that of cutting down the first growth of weeds.—On the 20th of June, he began to cut it for the use of the plough horses and mules and continued to supply them with as much as they could eat of it, during the whole summer. On the 2nd of September, he wrote me, that he had cut it *four times*. From 20 roots he obtained at the *fourth cutting*, 250 pounds of green grass, and in two weeks, he would cut it the *fifth time*. The weather being very unfavourable, he did not succeed in curing the hay, by weighing which, he intended to ascertain the loss in drying.*

I did not begin to cut that which I had planted in Natchez, until the 16th of July, I then weighed the produce of one seed, in the presence of a number of gentlemen at Mr. Robinson's Hotel. One hundred and sixty four stalks, from six to seven feet high, growing from one root weighed together 30 pounds. At Mr. Winn's tavern, on the 10th of September, a *second cutting*, from one seed weighed 35 pounds. The number of stalks was 184, some of which measured ten feet 11 inches in length. Some part of the lot in Natchez is very poor soil, and the grass on those places did not grow higher than six or seven feet. But on a good soil, in a favourable season, in this climate, I am persuaded it is a very moderate estimate to allow to every square yard 10 pounds at a cutting, when we cut only three times in the season. This would give 30 pounds to every square yard, or 147,000 pounds of green grass to the acre. But this production seems so enormous, that I should not have ventured on such a calculation had I not the respectable authority of Mr. Edwards to support me. He asserts that the Scots grass† which he seems to consider far inferior to the Guinea grass, is so productive, that one acre of it will support five horses the whole year round, allowing each horse 56 pounds per day, which is 102,200 pounds per acre.

It is not pretended that the Fiorin grass‡ which,

of late, has excited so much attention in Europe, will produce more than nine tons of hay per acre, and Mr. Livingston bestows great encomiums on Lucerne, which requires much more cultivation than Guinea grass, and yields only 4500 pounds per acre, at three cuttings. I am informed, that the best timothy meadows in Kentucky never produce more than six tons per acre, in the most favourable seasons. But I am sufficiently aware of the fallacy of such calculations as I have been making. An experiment on a *large scale* is absolutely necessary to the attainment of an accurate result. This season has been very wet, and grasses of all kinds, in this territory, have grown to an unusual length. Planters have found it necessary to make the most vigorous exertions to save their crops of corn and cotton from being choaked with grass and weeds. But admitting that my calculations are extravagant, let us suppose that an acre will produce *only one third* of what I have stated, still we must consider Guinea Grass as the most valuable of all the known grasses.

I regret very much that Mr. Laurens did not mention the grounds upon which he expresses an opinion that this grass is perennial. In Jamaica, I have no doubt it is so, but in this climate, I am persuaded, it is annual, and that during the months of September and October, it drops as much seed as is requisite to produce the crop of the ensuing year.* Indeed it is necessary every spring to cut down the superfluous plants in order to leave room for the spreading of those which are suffered to come to maturity—I have tried Mr. Laurens's method of dividing the roots and transplanting them, and find it answers very well for filling up such vacancies as happen from the imperfection of the seed, or from other causes, and which would occasion a great waste of labour and of land. The sooner in the season this is done the better, for I did not find that those plants which were thus removed in August, attained the usual size. In June and July this plan will succeed perfectly well.

I find very little difficulty in collecting the seed;† I have already obtained a bushel in return for three or four spoonfuls which I sowed

The plate of it given in that work might be readily mistaken for the Bermuda grass in this Territory, which the late much lamented Mr. Dunbar, had so much merit in introducing, and which will be found so valuable when the planters begin to perceive the folly of increasing the number of their slaves instead of breeding Merino sheep. Few men were more capable of forming a just estimate of the comparative value of the stock farm and the cotton plantation than Mr. Dunbar. The cultivation of cotton, he has often observed yielded a miserable return compared to the profits of a stock of Merinos. His solicitude to procure that precious breed of sheep, for some months before his death, ought to suggest to his survivors the true and perhaps the only means of restoring the country to its former flourishing condition.

* Since writing the above, Mr. Munson informed me that Mr. Laurens was correct, and that the roots which he examined in the last spring were perfectly green and putting forth a great number of shoots.

† After our early corn is bent down in this

on my lot in town—I cut off about two feet of the top with the panicle, as soon as the seed begins to fall, and after it is dry, comb out the seed with a coarse comb—I hope to to collect at least two bushels of seed during the autumn.

As the seeds vegetate very slowly, and as many of them are imperfect, the most certain mode of obtaining the young plants, would be that practiced by the cultivators of tobacco, who, early in the season, prepare a small spot of ground by burning the surface. On this they sow the seed, and tread them down with their feet. They then cover the spot with brush wood, to protect it from the action of cold winds, and the seed from the depredations of birds. As soon as the plants have attained the height of two or three inches, and when the danger of frost is past, they should be removed to the ground where they are to stand, where they readily take root.‡ A rich black mould, and a soil somewhat moist, I think produces the most luxuriant grass, but I have had very little experience on the subject. I hope that before many years, it will be tried in every climate in the United States, and on every variety of soil. No kind of grass with which I am acquainted, supports the heat of the sun so well, and this property, was it even less productive, would recommend it to the notice of the agriculturist, for, from the first of July, until it is killed by the autumnal frosts, it will af-

territory, we may plant Guinea grass between the rows, and when we take out the corn in October, the field will afford abundance of food for fattening cattle. I made a small experiment in this way, and have no doubt it may prove useful to those who have not a sufficiency of cleared land. If corn is planted in the succeeding March, the grass will not do any injury, as it does not vegetate until about the beginning of May. I think the seed might be sowed on wheat, in February or March, and as we cut our wheat about the 10th of May, the young grass would grow up among the stubble.

‡ There is no more difficulty in transplanting it, than in planting tobacco or cabbage. A basket or two of the young plants will be sufficient for an acre.—One hundred plants would enable a poor family to keep a cow in town, or to supply a dray horse with green food all summer. How much would the general cultivation of this grass add to the comfort of the poor and middling classes of society!

¶ The planters are beginning to be sensible of the importance of winter pasturage in this climate, where snows seldom remain 24 hours. Wheat fields, and the tall meadow oats, cavena elation, may be pastured from November until March, when the white clover begins to supply our animals with green food. This grows luxuriantly until the month of July. Then Guinea grass will furnish a still more grateful food, until our early wheat lots require to be eat down, in Oct. or Nov. Wheat, tall meadow oats, clover and Guinea grass, afford green food every day in the year, in the climate of the Mississippi Territory. In what part of the Union can sheep be raised with so little expense? In most parts of Europe, and in the middle and northern States, the winter keeping constitutes a principal part of the expense, and the severe frosts and deep snows destroy multitudes of lambs.

the nights of the 3d and 4th of May the hoar frost was so severe as to destroy almost all the tender plants in the territory.

* See certificate of Mr. Oglesby.

† *Panicum hirtellum* Lin.

‡ For an account of this grass, see Dr. Mease's Archives of useful knowledge, Vol. II. No. 3.

ford a constant, and an abundant supply of green food, and consequently enable the farmer, whatever may happen to his other meadows, to lay up a plentiful stock of hay, for the winter. If the hay is cut before the grass has grown too tall, less than two days' sunshine will dry it completely. It is uncommonly fragrant, and horses prefer it greatly to the best corn blades. This experiment was tried on the 28th of September, when I sent Mr. Winn, of Natchez, a small bundle of hay, which had been exposed to the sun about a day and a half. Mr. Winn put it into the bottoms of his mangers, and covered it with the best corn blades he could procure. The horses threw aside the fodder, and ate the hay with eagerness.

An acre of corn will not yield more than from 500 to 1000 pounds of dry blades. Considerable labour is necessary in gathering them; they are preserved with difficulty, as we cannot choose a favourable season, and with us they are always to be carried to the stack on the backs of labourers. As the Guinea grass, on the contrary, retains its verdure for several months, we can always cut it when the weather is the most promising; we can cultivate it on most plantations, near the place where we wish to feed it, or it may be carted out of the enclosure where it grows. If subsequent experience should confirm the principal facts which I have stated with regard to this grass, the intelligent farmer will soon perceive the advantage of cultivating it, instead of trusting to the scanty supply of blades, which he obtains from his corn fields, with such a waste of time and human labour. A Pennsylvania farmer who knows the advantage of a Timothy or Clover meadow, considers it a folly to spend time in collecting corn blades. If Guinea grass succeeds as well with others, and in every season, as it has done this season with me, and, as it had done in the West Indies for more than half a century, the planters of the south will have no reason to envy their northern neighbours, their luxuriant clover pastures, or their numerous ricks of Timothy hay. Meadows are generally the most fertile part of every farm where they exist, and their value is augmented by their contiguity to the farm houses. If Guinea Grass is substituted for Clover, Timothy, and Lucerne, at least seven eighths of all the grounds appropriated to those crops will be given to the cultivator for the purpose of raising sustenance for the human species. To what amount this change will increase the sum of national wealth, I leave those to estimate, who are more conversant with such calculations.

Certificates respecting Guinea Grass.

February 25, 1812.

Dear Sir—Your favour of the 15th inst. reached me yesterday. In reply to your inquiries respecting the Guinea grass, I will with pleasure give you such information as I have been able to make, to fulfil your wishes.

The first winter after I sowed the seed was fortunately mild, as it did not go to seed, in the spring it put up from the old roots. The branches I transplanted, and they grew luxuriantly. It seeded late in October. The roots were killed by the frost, but in the spring following, the seed that fell came up abundantly, these plants I divided, and transplanted about three acres of ground, but owing to the spring being very dry,

this could not be effected until the month of June, wishing to have the ground well stocked with seed, I made but little use of it. It seeded much earlier this year, and much more abundantly in the spring following, (that is last spring,) it came up in great abundance; when it got about two feet high, I began to use it for my riding horses and work creatures, in all not less than thirty head, and the growth was so rapid, that not more than half the ground was cut over, and some of this not more than once: my son, who was more particular than myself, informed me it grew six inches in twenty-four hours. The seed sprouts about the time of the common grasses, coming up with a single spire and putting out a vast number of branches, something like wheat, each of which may be transplanted. This winter I have reason to believe the roots are also killed. It seeded in great abundance last fall, and much earlier than the two previous years. It continues green until it is killed by the frost. On the river I am persuaded it would seldom if ever be destroyed in the winter.

I am respectfully, your obedient servant,
ABNER GREEN.
HENRY FARMER, Esq.

On the 16th of July, 1812, I weighed the first cutting of one plant of Guinea grass, which grew in Dr. Brown's lot. Its weight was thirty pounds of green grass. THOMAS ROBINSON.

Wilkinson Co. M. T. October 10, 1812.

I have frequently examined your lot of Guinea grass at Percyfield, and having for many years been in the habit of viewing both timothy and clover meadows, in the state of Virginia, where plaster of paris has been used, I have no hesitation in saying, that one acre of Guinea grass will produce more than six times the quantity I have ever known produced by an acre of any other kind of grass. M. BRONAUGH.

Dr. Brown.

Percyfield, Wilkinson Co. M. T.
October 15, 1812.

I have for many years been accustomed to both timothy and clover meadows, and have frequently assisted in cutting some of the best in the state of Kentucky. At Percyfield, near Fort Adams, I cultivated a lot of Guinea grass, somewhat less than a quarter of an acre, from which I fed six or eight horses, during the summer of 1812. I planted it the second week in May, and began to cut it the 20th of June, and cut it five times before the 15th of October, and obtained from each plant (which occupied a square yard) about sixty pounds of green grass. I have frequently observed it to grow four inches in twenty-four hours. From the astonishing growth, and from the result of all my experiments, I have no hesitation in saying, that it will yield ten times as much grass as any timothy or clover meadow I have ever seen. It is now (15th Oct.) as green as it was in June, and animals are remarkably fond of it, both green and dry. The hay is excellent, and cures without difficulty.

JOSEPH B. OGLESBY,
Of Jefferson Co. Kentucky.

Guinea grass, according to Browne, is a species of *Holcus*, the character of which, he says, agree pretty well with those of *Panicum* in general, but the flowers commonly grow very

luxuriant, and though often hermaphrodite, are generally observed to be male and female, distinct, surrounded by separate involucres, and standing on distinct pedicels, within the same calyx. See Browne's Civil and Natural History of Jamaica. Folio, page 366 London, 1756.

Dr. Martyn treats of it under the genera *Holcus* and *Panicum*.

Mr. Correa de Serro informs me, that in "the botanic garden at Paris, where Guinea grass has been with great care cultivated by Mr. Thonin, it is known by the name of *Panicum altissimum*, and it is very probable, that the frequent abortion of either of the sexes, in a great number of flowers, was the reason why Browne, and other scrupulous and literal Linnæan botanists, put it in the genus *Holcus*, notwithstanding all its characters were of *Panicum*" Dr. Martyn describes it among the panicums, under the name of *Panicum maximum*, in the following words:

Panicum maximum. Culms from five to ten feet high; upright, simple, even. Leaves lanceolate, towards the top convolute and sharp, smooth, except at the edge, which is rugged, and at the base which is rough haired. Panicle erect, a foot long and more; the lower branches in whorls, the upper in pairs. Florets numerous, alternate, ovate, sharpish, pressed to the raceme; on short, subflexuose pedicels. Spikelets polygamous. Outer valve of the calyx very small, inner oblong, sharpish, pale. Instead of the hermaphrodite, there is often a female floret, with a male at the side of it, or a female alone, without the hermaphrodite and male. Seed oblong, shining. In Jamaica it flowers in October.

Directions for the culture of Guinea grass will be found in Dr. Martyn's edition of Miller's Gardener's Dictionary, under the article of *Holcus pertusus*.

Besides the account of Guinea grass in Edwards, and the Domestic Encyclopedia, additional information may be obtained by referring to the Letters and Papers of the Bath and West of England Society, vol. 5, and Young's Annals of Agriculture, vols. 9 and 13. All agree in the extraordinary fattening properties of this plant, and to our southern states it cannot fail of being an incalculable benefit. J. M.

From the Albany Argus.

Treatise on Agriculture.

SECTION III.

THEORY OF VEGETATION.

(Continued from No. 20, p. 154.)

3d. Of air and its agency in vegetation:

A seed deprived of air will not germinate, and a plant placed under an exhausted receiver, will soon perish. Even in a close and badly ventilated garden, vegetables indicate their situation; they are sickly in appearance, and vapid in taste. These facts sufficiently show the general utility of air to vegetation; but this air is not now the simple and elementary body, that the ancient chymist described it to be. Priestly first, (1) and Lavoisier after him, analysed it and found, that when pure, it consisted of about 70 parts of azote, 27 of oxygen, and 2 of carbonic acid. In

(1) See Priestly's Experiments and Observations on different kinds of Air, begun in 1767.

its ordinary (or impure) state, it is loaded with foreign and light bodies, such as mineral, animal, and vegetable vapours, the seeds of plants and the eggs of insects, &c. It is to this aggregate, that vegetation owes the services rendered to it by air? And if not, to *how many* and to which of its regular constituents, are we to ascribe them? This inquiry will form the subject of the present article.

All vegetables in a state of decomposition, give *azote*; and some of them (cabbages, radishes, &c.) give it in great quantity. This abundance, combined with the fact, that vegetation is always vigorous in the neighbourhood of dead animal matter, led to the opinion, that azote contributed largely to the growth of plants; but experiments, more exactly made and often repeated, disprove this opinion, and show that in any quantity it is unnecessary, and that in a certain proportion it is fatal to vegetation.

In *hydrogen gas*, plants are found to be variously affected, according to their local situation; if inhabitants of mountains, they soon perish—if of plains, they show a constant debility—but if of marshy grounds, their growth is not impeded.

Carbonic acid is formed and given out during the processes of fermentation, putrefaction, respiration, &c. and makes 28 parts out of 100 of atmospheric air. It is composed (according to Davy) of oxygen and carbon, in the proportion of 34 of the former to 13 of the latter. It combines freely with many different bodies; animals and vegetables are almost entirely composed of it; for the coal which they give, on combustion, is but carbon united to a little oxygen, &c. Priestly was the first to discover, that plants *absorbed carbonic acid*; and Ingenhouse, Sennebier and De Saussure have proved, that it is their *principal aliment*. Indeed the great consumption made of it, cannot be explained by any natural process, excepting that of vegetation. On this head, we cannot do better than digest the experiments of the last of these chymists into a few distinct propositions: (2)

1. In pure carbonic acid gas, seeds will swell but not germinate. 2. United with water, this gas hastens vegetation. 3. Air containing more than one twelfth part of its volume of carbonic acid, is most favourable to vegetation. 4. Turf, or other carbonaceous earth, which contains much carbonic acid, is unfavourable to vegetation until it has been exposed to the action of atmospheric air, or of lime, &c. 5. If slacked lime be applied to a plant, its growth will be impaired, until the lime shall have recovered the carbonic acid is lost by calcination. 6. Plants kept in an artificial atmosphere and charged with carbonic acid, yield, on combustion, more of that acid than plants of the same kind and weight growing in atmospheric air. 7. When plants are exposed to air and sunshine, the carbonic acid of the atmosphere is consumed, and a portion of oxygen left in its place. If new supplies of carbonic acid be given to the air, the same result follows; whence it has been concluded, that air furnishes carbonic acid to the plant, and the plant furnishes oxygen to the air. This double function of absorption and respiration, is performed by the

green leaves of plants. (3) 8. Carbon is to vegetation, what oxygen is to animal life; it gives support by purifying the liquids and rendering the solids more compact.

4th. Of *light, heat, and electricity*, and their agency in vegetation:

When deprived of light, plants are pale, lax and dropsical; restored to it, they recover their colour, consistency and odour. If a plant be placed in a cellar, into which is admitted a small portion of light through a window or cranny, thither the plant directs its growth and even acquires an unnatural length in its attempt to reach it. (4) These facts admitted, no one can doubt the agency of light in vegetation; but in relation to this agency, various opinions exist; one, that light enters vegetable matter and combines with it; another, that it makes no part either of the vegetable or of its aliment, but directly influences substances which are alimentary: (5) and a third, that besides the last effect, it stimulates the organs of plants to the exercise of their natural functions. (6)

Without doing more than state these opinions, we proceed to offer the results of many experiments on this subject. 1st. That *in the dark*, no oxygen is produced, nor any carbonic acid absorbed; on the contrary, oxygen is absorbed and carbonic acid produced. 2d. That plants exposed to light, produce oxygen gas in water. 3d. That *light* is essential to vegetable transpiration; as this process never takes place during the *night*, but is copious during the *day*; and, 4th. That plants raised *in the dark*, abound in watery and saccharine juices—but are deficient in woody fibre, oil and resins; whence it is concluded, that saccharine compounds are formed in the night, and oil, resins, &c. in the *day*.

When the weather is at or below the freezing point, the sap of plants remains suspended and hardened in the albumum; (7) but on the application of *heat*, whether naturally or artificially excited, this sap is rendered fluid, is put into motion and the buds begin to swell. Under the same impulse, through the medium of the earth, the roots open their pores, receive nutritive juices, and carry them to the heart of the plant. The leaves, being now developed, begin and continue the exercise of their functions, till winter again, in the economy of nature, suspends the operations of the machine. Nor is its action confined to the circulation of vegetable juices, without vapour (its legitimate offspring) the fountain and the shower would be unknown—nor would the great processes of animal and vegetable fermentation and decomposition go on. Without rain or other means of ameliorating the soil, what would be the aspect of the globe? what the state of vegetation? what the situation of man?

The diffusion of *electrical matter*, found in the air, and in all other substances, furnishes a presumption that it is an efficient agent in vegetation. Nollet and others have thought that arti-

(3) This was a discovery of Sennebier.

(4) It is by a knowledge of this fact, that gardeners bleach chicory and celery, &c.

(5) See Fourcroy, vol. viii.

(6) See Chaptal on Vegetation.

(7) Knight's Observations, &c.

ficially employed, it favoured the germination of seeds, and the growth of plants: and Mr. Davy found, that corn sprouted more rapidly in water, *positively* electrified by the voltaic battery, than in water *negatively* electrified" (8) These opinions have not escaped contradiction, and we do not profess to decide, where doctors disagree.

5th. Of *stable yard manure, lime, marl, and gypsum*, and their agency in vegetation:

We have already said, that vegetables in the last stage of decomposition, yield a black or brown powder, which Mr. Davy calls a "*peculiar extractive matter, of fertilizing quality*," and which the chymists of France have denominated *terreau*. This vegetable residuum is the simple mean employed by nature to re-establish that principle of fertility in the soil, which the wants of man and other animals are constantly drawing from it. It was first analysed by Hassenfratz, who found it to contain an oily, extractive and carbonaceous matter, charged with hydrogen; the acetates and benzoates of potash, lime and ammoniac; the sulphates and muriates of potash, and a soapy substance, previously noticed by Bergman. Among other properties (and which shows its combustible character) is that of absorbing, from atmospheric air, its oxygen, and leaving it only azote. This was discovered by Ingenhouse, who, with Saussure and Bracconnet, pursued the subject by many new and interesting experiments, the result of which is:

1. That the oxygen thus absorbed, deprives the *terreau* of part of its carbon, which it renders soluble and converts into mucilage; and

2. That the carbonic acid, formed in the process, combines with the mucilage, and with it is absorbed by the roots of plants.

If we put a plant and a quantity of slacked lime under the same receiver, the plant will perish; because the lime will take from the atmospheric air all the carbonic acid it contains, and thus starve the plants. Vegetables, placed near heaps of lime in the open air, suffer from the same cause and in the same way; but though lime, in large quantities, destroys vegetation, in small quantities it renders vegetation more vigorous. Its action is of two kinds—mechanical and chymical; the first is a mere division of the soil, by an interposition between its parts; the second, the faculty of rendering soluble vegetable matter, and reducing it to the condition of *terreau*.

The *mechanical* agency ascribed to lime, belongs also to *marl* and to *ashes*, and in an equal degree; but their *chymical* operation, though similar, is less. (9)

Gypsum is composed of lime and sulphuric acid. Mayer was the first to present to the public a series of experiments upon it, in its relation to agriculture. Many chymists have followed him, and a great variety of opinion yet exists with regard to its mode of operation. Yvart thinks, that the action of gypsum is exclusively the effect of the sulphuric acid, which enters into its composition; and founds this opinion upon the fact, that the ashes of turf, which contain sulphate of iron and sulphate of alumina, have the

(8) Davy's Elements.

(9) Vegetable ashes are lime, combined with an earthly saline matter.

(2) Recherches chymiques sur la vegetation, chap. ii.

same action upon vegetation as gypsum. Laystrie, observing that plants, whose roots were nearest the surface of the soil, were most acted upon by plaster, concludes, that gypsum takes from the atmosphere the elements of vegetable life and transmits them directly to plants! Bose intimates, that the *septic* quality of gypsum [which he takes for granted] best explains its action on vegetation; but this opinion is subverted by the experiments of Mr. Davy—who found, that of two parcels of minced veal, the one mixed with gypsum, the other left by itself, and both exposed to the action of the sun, the latter was the first to exhibit symptoms of putrefaction. Mr. Davy's own belief on this subject is, that it makes part of the food of vegetables, is received into the plant and combined with it. The last opinion we shall offer on this head, is that of the celebrated Chaptal. "Of all substances, gypsum is that of whose action we know the least. The prodigious effect it has on the whole race of trefoils (clover, &c.) cannot be explained by any *mechanical* agency—the quantity applied being so small—nor by any *stimulating* power—since gypsum, raw or roasted, has nearly the same effect; nor by any absorbent quality, as it only acts when applied to the leaves. If permitted to conjecture its mode of operation, we should say, that its effect being greatest when applied to the wet leaves of vegetables, it may have the faculty of absorbing and giving out water and carbonic acid, little by little, to the growing plant. It may also be considered as an aliment in itself; an idea much supported by Mr. Davy's experiments, which show, that the ashes of clover yield gypsum, though the clover be raised on soils not naturally containing that substance."

(To be continued.)

HYDROPHOBIA.

Elmwood, Aug. 10th, 1819.

MR. SKINNER,—I perceive that the present time, though in common with every mid-summer, exciting some alarm, has awakened the attention of the public in no common degree to Hydrophobia, and becomes a suitable opportunity for every one who has any skill or knowledge in that disease to lend his aid. It would be criminal for any man to impose his theories on the public, in a disease, that gives to his fellow creature but one fleeting opportunity, to avert the shaft of death. One object in the present communication, is to remind the public, that a few years back, a benevolent Society was formed in Baltimore, to prevent the poor and superstitious from falling into the hands of Quacks, and Patentees of Nostrums, and to bring cases of threatened or actual Hydrophobia, under the management of regular Physicians.—The Rev. Dr. INGLIS was made president, and Drs. Smith, Donaldson, Baker, Page, Gibson and Wilkins were appointed a board of managers. As an excitement to cause patients to be brought in from the country, it was agreed, that their boarding should be paid out of the funds of the Society, when they were unable to pay, and in no case should any thing be charged for medicine. It was stipulated at the outset of the Society, that whatever internal remedies might be used, that in no case

should the knife, or caustic be omitted; for it was on this point, namely, a belief that the only means of safety, was to be expected from instantly extirpating the diseased part, and attending to the wound, that the Society originated. It might, therefore, well be called the Benevolent Surgical Society, for the prevention of Hydrophobia. It was too obvious, there existed a disposition in the public mind, to neglect the wound and trust to any external or internal application that might be suggested by that set of gentry who are ever watching the tide of credulity to cast in their bait. It was those fellows who in Pliny's day, cut off a joint of the dog's tail, to prevent Hydrophobia, but when that trick failed, they went to the other extremity of the animal, and mutilated the poor dogs' tongues, by cutting out one of the leaders, pretending it was a worm that caused madness; and, for this, they obtained a dollar. When this barbarous practice also failed, which continued till lately, they wisely went to the patient, where they could obtain a better fee, and more durable practice. Hence the introduction of Argillaceous stones, that excite wonder by adhering to the wound, and of the following list of infallibles each of which has some peculiar mark to recommend it; *Liverwort*, which has something uncommon in the substance of its foliage. *Hyoseris amplexicaulis* in the veins of its radical leaves. *Anagallis. Scutellaria*, and *Hedysarium Polistachia* in their capsules, all of which have their advocates, who can boast of their hundred supposed cures. It is a lamentable fact, that where superstition spreads her ebony wings, from thence we hear of those nostrums, and of numerous deaths from Hydrophobia. It would be a valuable addition to the Litany to insert a prayer to be delivered from Quackery, as also from superstition—no painter ever attempted this monster, because he would soon find it impossible to form any image of a being that required organs, constructed to hear only what was fabulous, and swallow nothing that was not monstrous. Scutellaria if that be the medicine alluded to by Drs. Stillwell, and Roberson, is a powerful bitter, and probably a narcotic; if it be *St. Integrifolia*. With due respect for the judgment of these gentlemen, I suspect they will never find another case to suit Scutellaria so well. It certainly was a peculiar case, and was one of those anomalous cases that might stand between Hydrophobia and Tetanus, or form a link with Histeritis or Histeria. That Histeria is some times accompanied with a dread of water, I have the history of two cases to prove; and that the bite of a dog *not mad* will produce disagreeable irritations, ending in permanent contractions of the fingers or wrist, I have also proof. Bark and wine I think would have answered the New York case, as well as Scutellaria. The writer of the above has nothing to boast as to his peculiar knowledge in Hydrophobia, but he has attended to it with only one idea or remedy for twenty years, and has met with twelve or fifteen cases of complete inoculation of the virus: all of which, have been extirpated in various times, from one hour to three days after the bite, and all with equal success. In one case there were twelve superficial wounds, and in this case, a horse and a cow bitten at the same time and place perished, and if, by the intricacy of the wound, no other means were prac-

ticable he would trust to suppuration of the wound, for a month, rather than to all the medicine in the Pharmacopœa.

An eminent practitioner in this state, told the writer of this, that he had during his practice, forty cases of bites, by animals, supposed to be mad, all of which were successfully treated by suppurating the wound with mercurial; this is some proof of an alliance with Tetanus; a proof that the disease may be made local, and to exhaust its virus without affecting the system. The vegetable caustic beat up, in a mortar, with a little water to the consistence of thin cream, and injected into the wound, or thrust in with a camel's hair pencil or with a bouge of linen wrapped round a knitting needle, so as to make a firm roll, as big as the wound, will in one minute make the wound as large again as at first, taking off all the diseased part—and it must be a ragged wound indeed, that the caustic from an elastic bag syringe, especially when made a little thinner, will not clear out. A little vinegar injected will instantly stop the caustic from corroding too freely—some suppurating ointment, made with Venice turpentine, and red precipitate will keep the wound in good purulent condition, and the longer the better.

It is most earnestly recommended to all the towns and cities in the United States, to form Societies upon the same plan as that in Baltimore, as the most sure way of arresting Hydrophobia—for it only requires to be taken out of the hands of the ignorant and superstitious, to be rendered one of the most unlikely diseases to produce death.

SILVANUS.

THE FARMER.

BALTIMORE, FRIDAY, AUGUST 20, 1819.

The 19th day of August has passed—twelve months have elapsed since the commencement of the *Maryland Censor*, and the *American Farmer* stands now on its own footing. All obligations to the subscribers to the *Maryland Censor* having been faithfully and honestly discharged, it remains now for those who received that paper, and the *American Farmer* in lieu of it, to discharge their part of the obligation by paying up their dues.

No disrespect whatever is intended towards those whose papers have been stopped in consequence of their not having paid up—It is altogether an affair of common, downright, fair dealing between man and man.—To such subscribers we can say,—you have had my paper for your benefit on which my money and time and labour have been expended;—It is but honest that you should *now* pay, since you were not compelled to take the paper. There are amongst those who have neglected to pay, many gentlemen no doubt, who have, either forgotten, or postponed, from day to day, yet while they forget and postpone—the editor's expenses are going on—his family must live—the farmer's beef, and his chickens, and his potatoes and his corn meal must be bought and paid for.—To be brief—we set out with one cardinal rule, on which not only the utility, but the very existence of the paper depends—We must be paid for the paper; we will not, because we cannot, send it

to any one for nothing. Those who think it not worth the money, will, of course, not patronise it;—and the best patronage is the price of subscription, paid yearly, in advance.

A REQUEST.—The Editor of the *Baltimore American Farmer*, respectfully requests the favour of any of his subscribers to send him a small parcel, say half a pint, more or less, of Egyptian, Minorca and Talavera Wheats.—Also, a small parcel of early Corn—stating the time it usually takes to ripen. Any other rare or valuable seed or grain will be received with great thankfulness.

The Editor has had frequent applications from Agricultural Societies for those articles, and his object in making this request is, to enable him to gratify these applications.

Editors of newspapers would serve the cause of Agriculture by copying this request.

We had intended, at first, to have given the whole of Mr. Madison's able address in this paper; but reflecting that all of our subscribers file their papers, we concluded to divide it, so as to give a greater variety of matter. It will be continued in the next two numbers.

The following letters, from valued friends in *Prince George's*, remind us of a suggestion we have often thought of making—that if the writers of the numerous letters we received from all quarters, would be good enough to mention, in short, general terms, the nature of the season, and the prospect as to the prevailing crops in the neighbourhood of the writers, it would be highly satisfactory, as such notices might be made the basis of periodical reports, from which an estimate might be formed as to the probable abundance or scarcity of any particular article. Accurate reports of this kind would promote regularity and uniformity in the prices of country produce, and the hard earned fruit of the husbandman's labour would no longer be so liable to the vicissitudes of an ever fluctuating market.

Prince George's County, Aug. 15.

We have little or no rain this season. Our crops of corn are lost. Many fields, with the most favourable weather will not produce a fourth of what they promised a few weeks past, and some little more than fodder. Our tobacco crops, are wretched in the extreme; not planted by nearly one half, and what stood is burning up. Our pastures might be burnt as we do the broom sedge in March and April. Our best springs have greatly failed, and in many places man and beast suffer for the want of water. Our mill races quite dry for weeks past, and yet, thank God, we are blest with health. The statement, will include all the lower part of this country from Upper Marlborough down; above that, it is said, they are more fortunate, having had partial rains.

It is also said, the counties adjoining, Charles, St. Mary's and Calvert, suffer from drought as much, if not more, than we do.

I may truly say, our prospect of a crop is much worse than it was several years since. The cold summer, was believed to be worse than any in the memory of our oldest inhabitants, yet our corn kept green and promised something. Many now have scarcely a hope of making any. Some of my neighbours were so fortunate as to

complete the planting of their tobacco crops—and it was thought three weeks ago, that prospects were good, but now they are gloomy in the extreme—we have no garden vegetables and our crops of hay are short. The account given you is not exaggerated. Indeed I feel fully impressed, that if you could at this time take a view of the district of country mentioned, you would say, the appearances for a next year's support are more deplorable than the statement now given.

Prince George's County, Aug. 12 1819.

Dear Sir—I had prepared some parcels of *Chile Wheat*, the produce of that which you sent me last fall, to be forwarded to you to day, but the gentleman who was to carry them has disappointed me; they shall be sent as soon as I can get an opportunity.

We are suffering here from the severest drought ever known in this part of the country. There has not been a rain to wet the roots of the Corn or Tobacco, since Whitsontide. There cannot possibly be as much Corn made in our part of the country, as will last the winter out. The Tobacco crop has almost entirely failed. Calvert, Charles, and St. Mary's, are as badly off as we are.

CHOLERA MORBUS.

TO THE EDITOR OF THE AMERICAN FARMER.

Sir—No disorder, perhaps, at this season of the year, is more fatal, especially among children than that which is called *Cholera Morbus*; and for a simple and infallible remedy, we cannot feel too grateful. I was awakened very early on Monday morning last, by one of my children, a girl, aged five years, being suddenly and violently seized with this complaint—vomiting and purging at short intervals, until day light. I had noticed the annexed prescription in some of our papers, and as early as I could, procured and burned, as directed, a new, soft cork. Having no milk handy, after rubbing the cork to a powder, I mixed the whole quantity with some molasses and water, strained it and administered to the child about one third of it, which instantaneously and effectually relieved her. She ceased to vomit, played about as usual, though somewhat languidly, and had no evacuation until Wednesday morning, which was healthy, and the child is now in perfect health. From its great apparent stringency I had prepared to dose the child with oil; but on Wednesday morning, the little alarm this circumstance excited, being dissipated, I saw no immediate necessity for administering it. I think you will do a service to the community, by republishing the following article in your useful paper.

A PARENT.

A writer under the signature of *Medicus*, in the *New York Daily Advertiser*, offers the following as a certain cure for the *CHOLERA MORBUS*.

Take a cork and burn it thoroughly in the fire; when it ceases to blaze, mix it upon a plate with a little milk and water, or any thing more agreeable to the palate, and repeat the dose until the disorder ceases—which it commonly does on the second or third administration of the remedy, the acidity of the stomach is immediately corrected, and the effect is instantaneous.

Receipt for destroying the Fly in Turnips.

Get some waste Tobacco from a Tobacconist,

and dry it in the sun, or in a pan over the fire; afterwards pound it into dust, and sow it over the land where your turnips are sowed, and it will preserve them from the *Fly*.

New York, Aug. 18.

By the *Hector*, Gillender, which sailed from Liverpool on the 26th June, we have received London papers to the 23d, and Liverpool to the 25th of that month.

The citizens of Liverpool were gratified, and astonished by the arrival at that port, on the 21st of June, of the beautiful steam ship *Savannah*. Capt. Rogers, in 26 days from Savannah, and 21 from land to land. She was five days in the channel before she got up to Liverpool, and worked her engine eighteen days of the passage. She is the first ship on this construction that has undertaken a voyage across the Atlantic; she was built in this city, and is 319 tons.

Sudden Death.—Died lately on the plantation of Mr. B—, in South Carolina, a negro wench, (a field hand,) while in the act of hoeing a hill of corn, aged 45.—Her friends, who attended to lay her out, found lashed round her the handle of a frying pan, which she had substituted in lieu of a corset, well secured by pieces of rope, which was, no doubt, the cause of her untimely exit.

W. H. D'C. WRIGHT, who has established himself on *Bowly's Wharf*, for the sale of Country Produce on commission, has engaged to furnish the Editor with an account of actual sales of Country Produce on several days in each week. Thus the farmer may rely on the accuracy of our list of prices, with as much confidence as if he had himself made the sales.

To the gentlemen from whom we have hitherto obtained this information, and in whom every confidence was to be placed, we return our sincere thanks—but, not having leisure to make a weekly tour of the wharves, we have taken this method of procuring exact intelligence, particularly as to sales of Corn—Wheat—Rye—Oats and Tobacco.

Sales of Country Produce, ascertained by actual sales, and reported for the American Farmer, by W. H. De Wright—Commission Merchant, Baltimore.

Tobacco—Eight hlds. crop, from Benedict—C. S. Smith's, sold by Dare and Chesley, at 10 and \$12—Virginia Tobacco, 6 1-2 to \$8—Sales of common Richmond Tobacco, by McDonald and Sons, at \$6 50—Wheat white, 1 06 to \$1 10—Sales on Wednesday, at \$1 08—Red, 1 02 to \$1 07; Sales Saturday, at 1 01 to \$1 03—Yesterday, \$1 06—Corn, 52 to 57—Oats, 40 to 45—Rye, 50 to 53—North Carolina Staples as per last report.

Live Stock.—Mr. Rusk purchased during the last week, 15 fatted cattle, picked from a drove of 25, for which he paid \$8 50 per cwt. (for the neat Butcher's meat—let this hereafter be understood;) They were brought from the South Branch of Potomac, fatted by Wm. Cunningham, and of superior quality.

Fish.—Shad, No. 1, \$7—No. 2, \$6 50—Herrings, No. 1, \$3 75, wholesale and retail, \$3; No. 2, wholesale, \$2 25—Retail, \$2 50—Hay and Straw as last reported.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolus." . . . VINE.

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BALTIMORE, FRIDAY, August 27, 1849.

NUM. 22.

AGRICULTURE.

Mr. Maddison's Address.

An Address delivered before the Agricultural Society of Albemarle, (Virg.) on Tuesday, May 12, 1849. By Mr. Madison, President of the Society

(Continued from No. 21, page 163.)

Were the earth in every productive spot, and in every spot capable of being made productive, appropriated to the food of man; were the spade substituted for the plough, and all animals consuming the food of man, or food for which human food might be substituted, banished from existence, so as to produce the maximum of population on the earth, there would be more than a hundred individuals, for every one now upon it. In the actual population of many countries, it brings on occasional epidemics to be traced to no other origin than the state of the atmosphere. Increase the numbers to ten or twenty fold, and can it be supposed that they would, at any time, find the breath of life in a condition to support; or if that supposition be admissible when limited to a single country, can it be admitted, when not only the contiguous countries, but the whole earth was equally crowded?

Must we then adopt the opinion entertained by some philosophers, that no variation whatever in the numbers and proportions of the organized beings belonging to our globe, is permitted by the system of nature; that the number of species and of individuals in the animal and vegetable empires, since they attained a destined complement, has been, and must always be the same; that the only change possible is in local augmentations and diminutions which balance each other, and thus maintain the established and unalterable order of things?

This would be the opposite extreme to that which has been rejected. Man, though so similar in his physical constitution to many other animals, is essentially distinguished from all other organized beings, by the intellectual and moral powers with which he is endowed. He possesses a reason and a will by which he can act on matter organized and unorganized. He can, by the exercise of these peculiar powers, increase his subsistence, by which his numbers may be increased beyond the spontaneous supplies of nature; and it would be a reasonable conclusion, that making as he does, in his capacity of an intelligent and voluntary agent, an integral part of the terrestrial system, the other parts of the system are so framed as not to be altogether unsusceptible of his agency, and unapplicable to its effects.

This reasonable conclusion is confirmed by the fact, that the capacity of man, derived from his

reason and his will, has effected an increase of particular plants and animals conducive to an increase of his own race; and a diminution of the numbers, if not of the species, of plants and animals displaced by that increase.

Most, if not all of our domesticated animals, probably exceed the numbers which, without the intervention of man, would be their natural amount; whilst the animals preying on or interfering with them, are proportionably reduced in their numbers.

The case is the same with cultivated plants.—They are increased beyond their natural amount; and banish, or proportionally reduce such as interfere with them.

Nor can it be said, that these changes made by human art and industry in some regions, are balanced by corresponding changes made by nature, in other regions. Take for examples, the articles of wheat, rice, millet, and maize, which are the chief food of civilized man; and which are now spread over such immense spaces. It is not possible to regard them as occupying no more than their original and fixed proportions of the earth; and that in other parts of it, they have disappeared in the same degree in which they are thus artificially extended. These grains belong to the torrid and temperate zones only; and so great a proportion of these zones have been explored, that it is certain, they could not have been displaced from other parts of the globe, in the degree in which they abound where they are now cultivated, and where it is certain they owe their abundance to cultivation. There must consequently be an absolute increase of them produced by the agency of man.

Take more particularly for an example, the article of rice, which constitutes so large a portion of human food. The latitudes to which its growth is limited by the nature of the plant, are for the most part so well known, that it may be assumed for an unquestioned fact, that this grain cannot always have prevailed any where, in the extent in which it is now cultivated. And it is equally certain that the vegetable productions belonging to the same climates, which must have been displaced by its cultivation, have not received an equivalent introduction and extension elsewhere.

It is remarkable that the vegetable productions most extensively used as human food, are but little, if at all found in their indigenous state; whether that state be the same as their present one, or a state from which they were improvable into their present state. They seem indeed not likely to flourish extensively in situations not prepared by the hand of man. The potato so recently brought into use, and now spreading itself over so great a surface, can barely be traced to a native state in the mountains of Chili, nor can it be believed, that previous to its adoption by

man, it ever existed in the extent to which cultivation is now carrying it.

These views of the subject seem to authorize the conclusion, that although there is a proportion between the animal and vegetable classes of beings on our globe, and between the species in each class with respect to which, nature does not permit such a change as would result from a destruction of the animals and vegetables not used by man; and a multiplication of the human race, and of the several species of animals and vegetables used by it, sufficient to fill up the void; yet that there is a degree of change which the peculiar faculties of man enable him to make, and by making which, his fund of subsistence and his numbers may be augmented; there being at the same time, whenever his numbers, and the change, exceed the admitted degree, a tendency in that excess to correct itself.

Could it however be supposed that the established system and symmetry of nature, required the number of human beings on the globe to be always the same; that the only change permitted in relation to them, was in their distribution over it, still as the blessing of existence to that number would materially depend on the parts of the globe on which they may be thrown; on the degree in which their situation may be convenient or crowded; and on the nature of their political and social institutions; motives would not be wanting to obtain for our portion of the earth, its fullest share, by improving the resources of human subsistence, according to the fair measure of its capacity. For, in what other portion of equal extent will be found climates more friendly to the health or congenial to the feelings of its inhabitants? In what other, a soil yielding more food with not more labour? And above all, where will be found institutions equally securing the blessings of personal independence, and of social enjoyments? The enviable condition of the people of the United States, is often too much ascribed to the physical advantages of their soil and climate, and to their uncrowded situation. Much is certainly due to these causes—but a just estimate of the happiness of our country, will never overlook what belongs to the fertile activity of a free people, and the benign influence of a responsible government.

In proportion as we relax the hypothesis which makes the aggregate number of mankind unsusceptible of change, and believe that the resources of our country may not only contribute to the greater happiness of a given number, but to the augmentation of the number enjoying a greater happiness, the motives become stronger for the improvement and extension of them.

But whilst all are sensible that agriculture is the basis of population and prosperity, it cannot be denied that the study and practice of its true principles have hitherto been too generally neglected in the United States; and that this state

has at least its full share of the blame. Now only for the first time, notwithstanding several meritorious examples of earlier date, a general attention seems to be awakened to the necessity of a reform. Patriotic societies, the best agents for affecting it are pursuing the object with the animation and intelligence which characterize the efforts of a self-governed people, whatever be the objects to which they may be directed.

Among these promising institutions, I cannot glance at the names of those composing that of Albemarle, without being assured, that its full quota of information will be furnished to the general stock. I regret only, that my own competency hears so little proportion to my wishes to co-operate with them. That I may not be thought, however deficient in good will, as well as in other requisites, I shall venture on the task, a task the least difficult, of pointing out some of the most prevalent errors in our husbandry, and which appear to be among those which may merit the attention of the society, and the instructive examples of its members.

1. The error first to be noticed is that of cultivating land, either naturally poor or impoverished by cultivation. This error, like many others, is the effect of habit, continued after the reason for it has failed. Whilst there was an abundance of fresh and fertile soil, it was the interest of the cultivator to spread his labour over as great a surface as he could. Land being cheap and labour dear and the land co-operating powerfully with the labour, it was profitable to draw as much as possible from the land. Labour is now comparatively cheaper and land dearer. Where labour has risen in price fourfold, land has risen tenfold. It might be profitable, therefore, now to contract the surface over which labour is spread even if the soil retained its freshness and fertility. But this is not the case. Much of the fertile soils is exhausted, and unfertile soils are brought into cultivation; and both co-operating less with labour in producing the crop, it is necessary to consider how far labour can be profitably exerted on them: whether it ought not to be applied towards making them fertile rather than in further impoverishing them; or whether it might not be more profitably applied to mechanical occupations or to domestic manufactures.

In the old countries of Europe, where labour is cheap and land dear, the object is to augment labour and contract the space on which it is employed. In the new settlements taking place in this country, the original practice here may be rationally pursued. In the old settlements, the reason for the practice in Europe is becoming daily less inapplicable, and we ought to yield to the change of circumstances by forbearing to waste our labour on land, which besides not paying for it, is still more impoverished and rendered more difficult to be made rich. The crop which is of least amount gives the blow most mortal to the soil. It has not been a very rare thing to see land under the plough not producing enough to feed the ploughman and his horse; and it is in such cases that the death blow is given—The goose is killed without even obtaining the coveted egg.

There cannot be a more rational principle in the code of agriculture, than that every farm

which is in good heart should be kept so; that every one not in good heart should be made so; and that what is right as to the farm generally, is so as to every part of every farm. Any system, therefore, or want of system, which tends to make a rich farm poor, or does not tend to make a poor farm rich, cannot be good for the owner, whatever it may be for the tenant or superintendent who has a transient interest only in it. The profit, where there is any, will not balance the loss of intrinsic value sustained by the land.

II. The evil of pressing too hard on the land has also been much increased by the bad mode of ploughing it. Shallow ploughing, and ploughing up and down hilly land have, by exposing the loosened soil to be carried off by rains, hastened more than any thing else, the waste of its fertility. When the mere surface is pulverized, moderate rains on land but little uneven, if ploughed up and down gradually wear it away. And heavy rains on hilly land ploughed in that manner, soon produce a like effect, notwithstanding the improved practice of deeper ploughing. How have the beauty and value of this red ridge of country suffered from this cause? and how much is due to the happy improvement introduced by a member of this Society, whom I need not name,* by a cultivation in horizontal drills, with a plough adapted to it? Had the practice prevailed from the first settlement of the country, the general fertility would have been more than the double of what the red hills, and indeed all other hilly lands now possess; and the scars and sores now defacing them would no where be seen. Happily, experience is proving that this remedy aided by a more rational management in other respects, is adequate to the purpose of healing what has been wounded, as well as of preserving the health of what has escaped the calamity. It is truly gratifying to observe how fast the improvement is spreading from the parent example. The value of our red hills, under a mode of cultivation which guards their fertility against wasting rains, is probably exceeded by that of no uplands whatever; and without that advantage, they are exceeded in value by almost all others. They are little more than a lease for years.

Besides the inestimable advantage from horizontal ploughing, in protecting the soil against the wasting effect of rains, there is a greater one, in its preventing the rains themselves from being lost to the crop. The Indian Corn is the crop which most exposes the soil to be carried off by the rains, and it is at the same time the crop which most needs them. Where the land is not only hilly, but the soil thirsty, (as is the case particularly throughout this mountainous range) the preservation of the rain as it falls, between the drilled ridges, is of peculiar importance; and its gradual settling downwards to the roots, is the best possible mode of supplying them with moisture. In the old method of ploughing shallow with the furrows up and down, the rain, as well as the soil was lost.

III. The neglect of manures is another error which claims particular notice. It may be traced to the same cause with our excessive cropping. In the early stages of our agriculture, it was more convenient and more profitable

* Col. T. M. Randolph.

to bring new land into cultivation, than to improve exhausted land. The failure of new land, has long called for the improvement of old land; but habit has kept us deaf to the call.

Nothing is more certain than that continual cropping without manure deprives the soil of its fertility. It is equally certain, that fertility may be preserved or restored, by giving to the earth animal or vegetable manure equivalent to the matter taken from it; and that a perpetual fertility is not, in itself, incompatible, with an uninterrupted succession of crops. The Chinese, it is said, smile at the idea that land needs rest, as if like animals, it had a sense of fatigue. Their soil does not need rest, because an industrious use is made of every fertilizing particle, that can contribute towards replacing what has been drawn from it. And this is the more practicable with them, as almost the whole of what is grown on the farms is consumed within them. That a restoration to the earth of all that annually grows on it, prevents its impoverishment, is sufficiently seen in our forests; where the annual exuvæ of the trees and plants, replace the fertility of which they deprive the earth. Where frequent fires destroy the leaves and whatever else is annually dropped on the earth, it is well known that the land becomes poorer; this destruction of the natural crop having the same impoverishing effect as the removal of a cultivated crop. A still stronger proof that an annual restoration to the earth of all its annual product will perpetuate its productiveness, is seen where our fields are left uncultivated and unpastured. In this case, the soil, receiving from the decay of the spontaneous weeds and grasses, more fertility than they extract from it is, for a time at least, improved, not impoverished. Its improvement may be explained, by the fertilizing matter which the weeds and grasses derive from water and the atmosphere, which forms a neat gain to the earth. At what point, or from what cause, the formation and accumulation of vegetable mould from this gain ceases, is not perhaps very easy to be explained. That it does cease, is proved by the stationary condition of the surface of the earth in old forests; and that the amount of the accumulation varies with the nature of the subjacent earth, is equally certain. It seems to depend also on the species of trees and plants which happen to contribute the materials for the vegetable mould.

But the most eligible mode of preserving the richness, and of enriching the poverty of a farm is, certainly that of applying to the soil a sufficiency of animal and vegetable matter in a putrified state, or a state ready for putrefaction, in order to procure which, too much care cannot be observed in saving every material furnished by the farm. This resource was among the earliest discoveries of men living by agriculture; and a proper use of it has been made a test of good husbandry in all countries, ancient and modern, where its principles and profits have been studied.

Some farmers of distinction, headed by Tull, supposed that mere earth, in a pulverized state, was sufficient without manure for the growth of plants; and consequently, that continued pulverization would render the soil perpetually productive; a theory, which never would have occurred

to a planter of tobacco or of Indian corn, who finds the soil annually producing less and less under a constant pulverizing course. The known experiment of Van-Helmont seemed to favour the opposite theory, that the earth parted with nothing towards the plants growing on it. If there were no illusion in the case, the earth used by him must, at least, have been destitute of vegetable mould. For, in an experiment by Woodhouse, a garden mould was diminished in its weight by a plant which grew in it. And the latest chemical examinations of the subject coincide with the general opinion of practical husbandmen—that the substance of plants, partakes of the substance of the soil.

The idea, is indeed, very natural that vegetable matter which springs from the earth, and of itself returns to the earth, should be one source at least of the earth's capacity to re-produce vegetable matter:

It has been asked how it happens that Egypt and Sicily, which have for ages been exporting their agricultural produce without a return of any equivalent produce, have not lost their reproductive capacity. One answer has been, that they have lost no small degree of it. If the fact be otherwise with regard to Egypt, it might be accounted for by the fertilizing inundations of the Nile. With regard to Sicily, there may be something in the system of husbandry, or some particular local circumstances, which counter-vail the continued exportation of the fruits of the soil. But it is far more probable, that the island is less productive than it once was. It is certainly less of a granary for other countries now, than it was when it received that title from the ancient Romans. And its population being diminished, the internal consumption must also be diminished. If a single farm is rendered less productive by a continued removal of its crops, without any adequate returns, no reason occurs why it should not happen to a number of farms multiplied to the extent of a whole country.

And that individual farms do lose their fertility in proportion as crops are taken from them, and returns of manure neglected, is a fact not likely to be questioned.

If it were, Virginia, unfortunately, is but too capable of furnishing the proofs. Her prevailing crop have been very exhausting, the use of manures has been particularly neglected.

Tobacco and Indian Corn, which for a long time on the east side of the Blue Mountains were the articles almost exclusively cultivated, and which continue to be cultivated, the former extensively, the latter universally, are known to be great impoverishers of the soil. Wheat, which has for a number of years, formed a large portion of the general crop, is also an exhausting crop. So are rye and oats which enter occasionally into our farming system.

With so many consumers of the fertility of the earth, and so little attention to the means of repairing their ravages, no one can be surprised at the impoverished face of the country; whilst every one ought to be desirous of aiding in the work of reformation.

The first and main step towards it, is, to make the thieves restore as much as possible of the stolen fertility. On this, with other improvements which may be made in our husbandry, we

must depend for the rescue of our farms from their present degraded condition.

Of Tobacco, not a great deal more than one-ninth of the entire plant is carried to market. The residue is an item on the list of manures: and it is known to be in its quality a very rich one. The crop of tobacco, however, though of great value, covers but a small proportion of our cultivated ground, and its offal can of course contribute but inconsiderably to the general stock of manure. It is probable also that what it does contribute, has been more carefully used as a manure, than any other article furnished by our crops.

The article which constitutes our principal manure is wheat straw. It is of much importance therefore to decide aright on the mode of using it. There are three modes:—1. Carrying it from the farm yard, after having passed through or being trodden and enriched by cattle. In that mode, the greater part of it must be used, if used at all: the straw going through that process, being a necessary part of the food allotted to the cattle. To derive the full advantage from it, it ought to be hauled out before the substance has been wasted by rain, by the sun, and by wind; and to be buried in the earth as soon after as possible. 2. Spreading the straw on the surface of the ground. Many respectable farmers are attached to this mode, as protecting the soil from the sun: and by keeping it moist, favouring the vegetation underneath, whether spontaneous or artificial; whilst the straw itself is gradually decomposed into a manure. The objection to this mode is the loss by evaporation, before this last effect is obtained. 3. Turning the straw at once under the surface of the earth. This would seem to be the best mode of managing manures generally; least of their substance being then lost. When the grain is trodden out from the straw, it is left in a state easily admitting this operation. Some difficulty may attend it, when the grain is threshed from the straw by the flail or by the machines now in use, neither of which break the straw sufficiently to pieces.

It may be remarked with regard to this article of manure—1. That its weight is barely more than that of the grain. 2. That the grain is the part which makes the greatest draft on the fertility of the earth. 3. That the grain is for the most part not consumed within the farm. It is found on trial that a stalk of wheat, as generally cut, including the chaff, and the grains borne by the stalk, are pretty nearly of equal weight. The case is probably the same with rye; and not very different with oats. The proportion of fertilizing matter in the straw, to that in the grain, has not, as far as I know, been brought to any satisfactory test. It is doubtless much less in the straw, which alone in the case of wheat, is with us returnable in any form to the earth. This consideration, whilst it urges us to make the most of the article as a manure, warns us of its insufficiency.

The stubble and the roots of the small grains, not being taken from the earth, may be regarded as relapsing into a fertility equal to that of which they deprived the earth. This remark is applicable to all cultivated plants, the roots of which are not an esculent part.

An eminent citizen and celebrated agricultu-

rist* of this state, has among other instructive lessons, called the public attention to the value of the cornstock as a manure. I am persuaded that he has not overrated it—And it is a subject of agreeable reflection, that an article which is so extensively cultivated as that of Indian corn, and which is so particularly exhausting, should be the one so capable of repairing the injury it does.

The corn stock as a fodder is of great value. Not only the leaves, but the husk enclosing the ear, and the cob enclosed by it, are all more or less valuable food when duly preserved and dealt out to cattle. There is no better fodder than the leaves or blades for horses and oxen; nor any so much approved for sheep. The husk or shuck is a highly nourishing food for neat cattle. And the pickings of the stalk, even at a late season, and after much exposure to the weather, support them better than any of the straws. From the saccharine matter in the stalk, which is long retained about the joints, it cannot be doubted that if cut early, or before exposure to the weather, into parts small enough for mastication, it would well repay, as a food for cattle, the labour required for it.

The great value of the corn stalk, in all its parts as a fodder, was brought into full proof, by the use made of it during the late general failure of crops. It is to be hoped that the lesson will not be suffered to pass into oblivion.

[To be continued.]

* Col. John Taylor.

FROM THE ALBANY ARGUS.

Treatise on Agriculture.

SECTION IV.

Of the Analysis of soils, and of the agricultural relations between soils and plants.

[Continued from No. 21. page 167.]

We have seen that the earths have a threefold capacity, that they receive and lodge the roots of plants and support their stems; that they absorb and hold air, water and mucilage—aliments necessary to vegetable life; and that they even yield a portion of themselves to these aliments. But we have also seen, that they are not equally adapted to these offices; that their parts, texture and qualities are different; that they are cold or warm, wet or dry, porous or compact, barren or productive, in proportion as one or other may predominate in the soil; and that to fit them for discharging the various functions to which they are destined, each must contribute its share, and all be minutely divided and intimately mixed. In this great work nature has performed her part, but as is usual with her, she has wisely and benevolently left something for man to do.

This necessary march of human industry, obviously begins by ascertaining the nature of the soil. But neither the touch, nor the eye, however practised or acute, can in all cases determine this. Clay, when wet, is cold and tenacious—a description that belongs also to magnesian earths: sand and gravel are hard and granular; but so also are some of the modifications of lime: vegetable mould is black and friable, but not exclusively so: for schistons and carbonaceous earths have the same properties.

It is here then, that chemistry offers herself to obviate difficulties, and remove doubts; but neither the apparatus nor process of this science, are within the reach of all who are interested in the inquiry, and we accordingly subjoin a method, less comprehensive, but more simple, and sufficiently exact, for

agricultural purposes, and which calls only for two vases a pair of scales, clean water and a little sulphuric acid.

1st. Take a small quantity of earth from different parts of the field, the soil of which you wish to ascertain, mix them well together and weigh them; put them in an oven, heated for baking bread, and after they are dried, weigh them again, the difference, will show the absorbent power of the earth. When the loss of weight in 40 grains, amounts to 50, this power is great, and indicates the presence of much animal or vegetable matter; but when it does not exceed twenty, the absorbent power is small, and the vegetable matter deficient (1.)

2d. Put the dried mass into a vase with one fourth of its own weight of clear water, mix them well together; pour off the dirty water into a second vase and pour on as much clear water as before; stir the contents and continue this process until the water poured off, is as clear as that poured on the earth. What remains in the first employed vase is sand, silicious or calcareous.

3d. The dirty water, collected in the second vase, will form a deposit, which (after pouring off the water) must be dried, weighed and calcined. On weighing it after this process, the quantity lost, will show the portion of animal and vegetable mould contained in the soil; and,

4th. This calcined matter must then be carefully pulverised and weighed, as also the first deposit of sand but without mixing them. These apply, separately, sulphuric acid, and what they respectively lose in weight, is the portion of *calcareous* or *aluminous earths* contained in them. These last may be separated from the mass by soap lye, which dissolves them." (2)

Here is the light we wanted. In knowing the disease, we find the cure. Clay and sand qualify each other; either of these will correct an excess of lime, and magnesian earth, when saturated with carbonic acid, becomes fertile.

But entirely to alter the constitution of a soil, whether by mechanical or other means, is a work of time, labour and expense, and little adapted to the pecuniary circumstances of farmers in general. Fortunately a remedy, cheaper, more accessible and less difficult is found in that great diversity of habits and character, which mark the vegetable races. We shall therefore, in what remains of this section, indicate the principle of these, as furnishing the basis of all rational agriculture.

1st. Plants have different systems of roots, stems and leaves and adapt themselves according to different kinds of soils: the tussilagone prefers clay, the sparganium sand, asparagus will not flourish on a bed of granite nor muscus islandicus on one of alluvion. It is obvious, that *filices rootid* plants, which occupy only the surface of the earth, can subsist on comparatively stiff and compact soils in which those of the leguminous and cruciform families would perish from inability to penetrate and divide.

2d. Plants of the same or of a similar kind, do not follow each other advantageously in the same soil. Every careful observer must have seen how grasses alternate in meadows or pastures, where nature is left to herself. At one time timothy, at another clover, at a third red-top, and at a fourth blue grass prevails. The same remark applies to forest trees; the original growth of wood, is in itself succeeded by a second of the same kind; pine is followed by oak, oak by chestnut, chestnut by hickory. A young apple tree will not live in the place, where an old one has died; even the pear tree does not thrive in succession to an apple tree, but stone fruit will follow either with advantage. "In the Gauthoise, (says Rose) succession is not resumed but after a lapse of twenty years; and in the Netherlands, flax and kolzat require an interval of six years. Peas, when they follow beans, give a lighter crop than when they succeed plants of another family." (3.)

(1) See Davy's elements.

(2.) This method of analysing soils, is that described by Mr. Bosc, a member of the Institut of France, &c, and recommended to French Agriculturists.

3d. Vegetables whether of the same family or not, having a similar structure of roots, should not succeed each other. It has been observed, that trees suffer considerably by the neighbourhood of sainfoin and lucern, on account of the great depth to which the roots of these plants penetrate—whereas culmiferous grasses do them no harm.

4th Annual or biennial trefails, prevent the escape of moisture by evaporation, or filtration from sandy and arid soils, and should constantly cover them in the absence of other plants; [4] while *drying and dividing crops*, as beans, cabbages, chickory, &c. &c. are best fitted to correct the faults of stiff and wet clays.

5th. When plants are cultivated in rows or hills, and the ground between them is thoroughly worked, the earth is kept open, divided and permeable to air, heat and water and accordingly receives from the atmosphere, nearly as much alimentary provision as it gives to the plant. This principle is the basis of the drill husbandry.

6th. All plants permitted to go through the phases of vegetation (and of course to give their seeds) exhaust the ground in a greater or less degree; but if cut green, and before seeding, they take little from the principle of fertility.

7th. Plants are exhausters in proportion to the length of time they occupy the soil. Those of the culmiferous kinds (wheat, rye, &c.) do not ripen under ten months, and during this period, forbid the earth from being stirred; while on the other hand leguminous plants occupy it but six months, and permit frequent ploughings. This is one reason why culmiferous crops are greater exhausters than leguminous: another is, that the stems of culmiferous plants become hard and stony, and their leaves dry and yellow from the time of flowering till the ripening of the seed—losing their inhaling or absorbing faculties—circulating no juices and living altogether by their roots, and on aliments exclusively derived from the earth—whereas leguminous or cruciform plants, as cabbages, turnips, &c. &c. have succulent stems and broad and porous leaves and draw their principal nourishment from the atmosphere. The remains of culmiferous crops also are fewer, and less easily decomposed, than those of the leguminous family.

8th. Meadows, natural and artificial, yield the food necessary to cattle, and in proportion as these are multiplied, manures are increased and the soil made better. Another circumstance that recommends them is that so long as they last, they exact but little labour, and leave the whole force of the farmer to be directed to his arable grounds. [5.]

9th. Grasses are either fibrous or tap-rooted, or both: The remarks already made in articles 1, 2, &c., apply also to them. Timothy, red-top, oat-grass and rye grass, succeeded best in stiff, wet soils. Sainfoin does well on soils the most bare, mountainous and arid; lucern and the trefails, [or clovers,] only obtain the perfection of which they are susceptible, in warm dry, calcareous earth.

10. The ameliorating quality of the tap-rooted plants is supposed to be in proportion to their natural

(3) The ill effect of a succession of crops of the same kind was not unknown to the Romans. We have proof of this in the following passage of Festus: "Restibilis ager fit qui continuo biennio seritur farreo spico, id est aristato, quod, ne fiat solent qui pradiolant, eripere."

(4) The "Sterilis tellus medio versatur in aestu" of Virgil, shows the opinion he entertained of a husbandry that left the fields without vegetation.

[5] The good effect of these mixtures was known to the ancients, from whom the practice has descended to us. What a picture of fertility and abundance have we in the 22d chap. 18th book of Pliny's Natural History; "Subvite seritu frumentum, max legumen, decidue olus, omnia, eodem anno, omniaque alieni umbra aluntur."

duration annual clover, [lupinella,] has less of this property than biennial [Dutch clover] less than sainfoin, and sainfoin less than lucern.

11. Any green crops ploughed into the soil, has an effect highly improving; but for this purpose, lupins and buck-wheat [when cut in flower] are most proper.

12. Mixed crops [as Indian corn, pumpkins, and peas, and oats] are much and profitably employed, and with less injury to the soil than either corn or oats alone.

For the American Farmer.

On Hedging. No. 3.

How far the foregoing remarks on the value of a living fence compared with that of a dead one, may preponderate in the minds of others, I must leave them to determine. But the consideration of that subject for upwards of thirty years past, has had so much weight with me as to produce a resolution to attempt to raise one, at least on a small scale. Although there were discouraging objections presented, and which probably have deterred others; such as the unpleasant appearance of those hedges which had been neglected ever after being planted and which obtained their growth as nature directed, becoming so high as to obstruct a view over the farm in any direction; so that the traveller on the public road, hedged on both sides, is insulated and excluded from all the pleasure of seeing the beauties of a well cultivated neighbourhood as he passes through. Those neglected hedges not only obstruct the view, but occupy a considerable portion of ground that might be better employed, if their spreading side branches were removed as they should be, for they afford shelter to briars and a variety of other things pestiferous to a farm occasioned by the droppings from birds, perching on these very convenient resting places as they pass on; the berries and seeds of which, in their turn, invite a visit from the aerial passenger, and keep up a continued product of those things so pernicious to the farmer.

The wide spreading branches of a neglected hedge produce all those base, discouraging effects, and lead people to believe that there is no better way of managing the live fence than to suffer such bad consequences to attend their labours.

On viewing all those inconveniences and disadvantages, I should have declined the propagation of thorn wholly, if I had not believed that they could be cultivated and formed into a neat and durable hedge free from such difficulties: and I have since found it not only practicable, but an easy task, compared with the labour of fencing in any other manner.

All the ground necessary for a good hedge, is from two to three feet in width; the plough and the scythe should occupy the residue: and from five to six feet in height, is all sufficient to check the most ungovernable animal on a farm.

Another practice prevails with many that have planted hedges, when these are grown to a considerable height, they cut them down, turning the tops into the road if on a road side or otherwise on the defensive side to form a fence, while the young shoots from the stump forms another hedge in the place of the former. If the top is cut off wholly, it soon decays, but not until abundance of pernicious productions have taken root and risen through the brush wood that lays on the ground.

A third practice is to cut partially off leaving as much of the stock uncut as to retain life, and then turn them down as before, with all the bad consequences as above and the addition of a perpetuation of them. The brush wood continues living, and a new hedge rising at the same time from the stumps, the rubbish that takes root and grows up through this mass of protection and affords shelter for pernicious animals, as well as vegetable productions, such as briars, thistles, mullein, elders, wild grass, and poison vines as well as many others—occupying a considerable space, forming a hedge row of unconquerable pests and keeping up a continuation of seed, to be carried by the birds over a whole neighbourhood.

A fourth practice is pursued as a more improved plan, it is called plashing: cutting as before, partially and laying the stock longitudinally, at the same time turning the top end of the cutting to the defensive side and driving stakes upright through the plashing to keep them in their places: being laid down horizontally upon another, they form a defence; and also a living hedge—the shoots rising from the roots soon aspire to their original height, and drawing the flow of sap, the parts laid down naturally decline in strength yet live, are very tenacious of life in every posture while there is any communication with the root—which circumstance induced me to attempt to train in another way. I readily saw that the operations of the mode justly decided, must be repeated further by cutting away and laying or plashing again and again in perpetuity, making it a serious job. And after all, in self defence not only the rugged thorn, but every other product associated with, and twined amongst it, must be cut away.

It is not strange that hedging has not progressed, under a belief that there was no better mode of practice than what generally appeared.

Occasional Extracts of Letters.

TO THE EDITOR,

dated—Tulbot County, 13th July, 1819.

I saw LLOYD'S Chile Wheat, when it was almost fit to cut; it has a very fine large head and stock, but I fear it has too much sap, making it more subject to rust, or mildew; but this may be owing to its being sowed thin. I find amongst the *Lawler Wheat*, scattering heads all over of a very dark colour, and remarkably large head and fine grain. I have never seen any of this kind before; it has, I think, certainly imbibed the properties of the *Lawler Wheat*, in its capacity to resist the fly, if so, it is vastly superior to the *Lawler*, the grain is quite as good, and much larger, and in colour resembling the red chaff bearded wheat. I have picked out about one and a half gallons of it, and shall be particular in ascertaining further its character and qualities.—My *Ruta Baga* looks well—I can see it over the whole ground—one fourth of an acre, sowed exactly according to COBBETT'S directions.

RYE.

TO THE EDITOR,

dated—Washington County, [Md.] Aug. 10, 1819.

Having been indebted to your useful paper, for many valuable suggestions, allow me to contribute a mite towards the improvement of Maryland Agriculture.

A rotation of crops, it is generally admitted, is absolutely necessary in order to perfect our system. As to the most proper rotation, farmers will disagree indeed, what will suit one soil, or one farmer, will not suit another, but rye is a crop which may be introduced on any farm and at any stage. It will succeed in fallow, in corn ground, or in stubble. For the last fourteen or fifteen years, I have never missed a good crop of Rye—and the best crop I ever made was in wheat stubble, ploughed once and harrowed in—and I have every reason to think, that Rye may be sown with success in the same field for many years in succession.

The great and the only secret in regard to ensuring a good crop of rye, is *early* sowing. From the middle of August to the middle of September, I have always found to be the best time for sowing rye. From three pecks to a bushel per

acre, is amply sufficient for seed. Early sown rye is much more heavy than the latter; and further, it affords excellent pasture both in the fall and spring, nor does pasturing injure the crop; in many cases it is a real benefit, particularly when eaten down by sheep. Clover also succeeds much better after rye than after wheat.*

By raising rye, a farmer can do with a less quantity of Indian corn. Rye meal mixed with cut straw is a strong and healthy food for work horses. Fifty acres planted in corn, and sown down in rye, will thus be equal to one hundred acres in corn alone. If the corn ground is rich, it may be sown in wheat, then stubbled and sown in rye.

Rye will be found on rich or on poor land, a good crop. It is not liable to the ravages of the Hessian fly, nor is it injured by smut and some other diseases to which wheat is subject. Where land will produce ten bushels of wheat to the acre, it will yield fifteen of rye. Rye is a strong and healthy food for man and beast, and from rye is produced that reviving and invigorating cordial called *Columbia*, which ought to supersede the use of foreign spirituous liquors.†

PORCIUS.

* The Editor is of opinion, that clover succeeds better with rye than with any other grain he has ever seen it sown with.

† We should rejoice to see whiskey itself superseded by good cider and cheap malt liquors. We consider the cheapness of whiskey and other ardent liquors as a fruitful source of national misery and degradation. We shall, at some leisure moment, make a more formal attack upon this "*cordial*, called *Columbia*:" in the meantime, we are much obliged to our correspondent for his communication, and think we ought, and hope we shall have the benefit of his aid in promoting the good cause in which we are engaged.

Guinea Grass, &c.

TO THE EDITOR.

Dated—August 17th, 1818.

DEAR SIR: I received from a gentleman, who got it from Jamaica, about a tea spoon full of *Guinea Grass Seed*. I sowed of this about one third in a very favourable place to forward vegetation, about the 10th of April. I could not discover any of it to come up. The first week in May, I sowed another third in a hot bed, and none came up. The last of May the remainder was sowed in a drill, and came up in about 12 or 15 days, and is now growing finely, but is a very coarse grass. Indeed I am told the seed will not ripen here, as the frost kills it entirely. I began this letter in the hope of being able to send you some seed, but my messenger has returned and says, that the person from whom I got my seed, sowed all he had, and none came up: he sowed a peck.

We very often see little or nothing in gardens, from the crops not succeeding each other in the most economical manner. I send you the following from *Middleton's View of the Agriculture of Middlesex, England*.

Observations on Gardens, between Westminster and Chelsea.

Soon after Christmas, when the weather is

open, the gardeners begin by sowing the borders and then the quarters with raddishes, spinage, onions, and all the other seed crops. As soon afterwards as the season will permit, which is generally in February, the same ground is planted with cauliflowers from the frames as thick as if no other crop had possession of the ground: the raddishes, &c. are soon sent to market, and when the cauliflowers are so far advanced as to be earthen up, sugar loaf cabbages are planted from the aforesaid seed crops. When these are marketed, the stalks are taken up, the ground cleared and planted with endive and cellery from the aforementioned seed crops, and daily as these are marketed, the cellery is cropped for winter use. The gardeners agree in one maxim, to dung plentifully, dig the soil well and to sow good seed.

The following is the estimate:

Raddishes,	110
Cauliflowers,	60 to 70
Cabbages,	30
Cellery, 1st crop,	50 to 60
Endive,	30
Cellery,	40
Total amount, per acre, —	1,220

This estimate is stated as under the mark. Some seasons occasion a considerable deduction; but they do not often occur; 1,200 per acre is a very low estimate.

Expenses are:

Labour,	135	Rent, taxes & tithes, 12	
Teams and dung,	25	Marketing,	8
Total amount of expense,	180		

The farming gardeners, as those who plough, are situated at a distance from London, and occupy larger tracts of land, and follow this order of cropping:

January and February, early peas, gathered and sold green. In June, the haulm, when dry stacked for horses. The cleared ground is sowed with turnips, which are sold in autumn; the ground then ploughed and planted with coillards.

There are about 8000 acres cultivated in this manner, producing 150 per acre.

Gardens, at heat houses, 200 acres at 1,200, is	1,400,000
Surry side of the Thames, 500 acres, at 1,150, is	75,000
Round the outskirts of London, 1300, at 1,100, is	130,000
Wholly cultivated by the spade, 2000, at 1,120, is	245,000
Farming gardeners, 8000, at 1,150, is	400,000

Total of acres, 10,000	645,000
To which add fruit gardens	400,000

1,045,000

Gardeners provide for their families on few acres of the best ground; as well as the generality of farmers on 150 or 200 acres. There are some gardeners in the Commission of the Peace; the profession has produced several Sheriffs of counties, and more who have realized from 20 to 50,000*l*. Mr. Risberry, of Little Sutton, has upwards of eighty acres cropped with asparagus, which cost about 1000*l*. per acre, making; the labour afterwards, 50 shillings per acre, except cutting and marketing; it is very profitable in sandy land; in kindly growing sea-

sons cutting twice in 24 hours. Profit, 50% per acre, with very little expense.

I will send by the stage some of the Guinea grass.

With respect, yours, &c.

NOTE. The receipt of the grass, in excellent order, is thankfully acknowledged. It was immediately transplanted and seems to be doing well, at the Editor's dwelling, where any one having the curiosity, may call and see it. The ingenious manner in which it was put up, and sent in good condition, by stage upwards of 40 miles, in a state, apparently as fresh as when pulled up, deserves notice, and may prove useful in like cases. Two bunches of grass were pulled up with all the dirt adhering to the roots; they were laid between two shingles, the roots of both branches placed together at one end; and the stalks and blades (about 18 inches long) placed smoothly between the two shingles which meet at the other end; thus completely protecting the whole; and an old paper is then wrapped over and tied about the whole. A small tree, shrub, or grass of any kind, might, as we suppose, in this way, be safely sent to any distance, by land or water; or more especially, if the earth about the roots were occasionally moistened. Small matters and contrivances of this sort, which seem of little import, are often worthy of notice, as the means of readily accomplishing desirable objects, otherwise not attainable.

A

COMPENDIOUS DICTIONARY

OF

THE VETERINARY ART:

CONTAINING

A CONCISE EXPLANATION

Of the various Terms used in Veterinary Medicine and Surgery: Also, a short Description of the Anatomy or Structure of the Eye, the Foot, and other important parts of the Horse; with practical observations on his Diseases, as well as those of other domestic animals.

From a new English work, bearing the above title, we shall occasionally extract such articles, as shall appear most interesting, taking them in alphabetical order, and commencing now, with the word

ABORTION. Miscarriage, slipping or sinking the foal or calf. Mares, when far gone with foal, if overworked or improperly ridden, are liable to miscarriage: it is caused also by the accidents which sometimes happen at grass; such as falling into a ditch or pit, and struggling to extricate themselves; or being kicked in the belly. In cows, slipping calf is sometimes caused by the smell of blood, carrion, or any putrid animal matter, and the sinking of one cow is apt, from this circumstance, to be communicated to others. As soon therefore as any symptoms of approaching abortion are observed, it is proper to separate the cow from the rest of the herd. The first appearances are generally a sudden filling of the udder, a loose and flabby appearance of the genital parts, which discharge a little red

coloured fluid: the animal appears to be indifferent in grazing, and sometimes shows signs of uneasiness or pain. Cows in good condition are most liable to abortion: and it is well known, that milk fever or inflammation of the womb, often a fatal disease in cows, seldom attacks such as are rather lean than fat at the time of calving. It has been observed, that cows more frequently slip their calves at the latter end of the year, than at other times. A cow that has once slipped calf, becomes more liable to the accident in future: and as often as the accident happens, so does the liability to it increase: it is of importance therefore, when a cow has slipped, to remove carefully the cleansings or afterbirth, and never to suffer blood, carrion, or any kind of dead animal matter to be taken into the pasture where pregnant cows are kept. Various means have been recommended for preventing abortion; that is, when those appearances which indicate its approach are observed. Bleeding, I believe, is the best, if not the only preventive; more especially when it is caused by bruises or over exertion, or in violent struggling, or being driven about and hurried. And in such cases, not less than from four to six quarts of blood should be taken off, according to the strength of the animal. When the symptoms of approaching abortion appear to arise from other causes; when cows appear stupid, chewing the cud languidly or not at all, an opening drench should also be given. Take half a pound of sulphate of magnesia (Epsom salt) three or four drams of aloes in powder, and about three pints of warm gruel; one dose. After abortion has taken place, the cow should be kept in a sheltered place by herself; if the afterbirth has not passed off, that is, if she has not cleared, as it is commonly termed, no force or medicine should be used to hasten its removal. The various drenches that are employed for this purpose, as well as those to prevent abortion, are always useless, sometimes injurious. The same treatment is applicable to mares that have slipped foal.

ABSCCESS. A swelling generally produced by a bruise, or other external injury, sometimes, however, it arises from other causes, as in strangles. The swelling is at first hard and painful to the touch, but gradually becomes softer from the upper part towards the bottom. When the whole of the tumour feels soft and elastic, that is yielding to the pressure of the finger, but immediately rising again when the finger is removed, it is said to be ripe, and may be opened with a lancet, or other convenient instrument; a whitish coloured matter will then flow from it, nearly as thick as cream; this is termed *pus*. When the extent of the cavity has been ascertained, by means of a probe or the finger, the whole is to be laid completely open. By this method all the *pus* will freely escape, and merely by washing it twice a day with warm water, it will soon get well, without further trouble; but if, according to the common mode of treatment, only a small opening is made, the matter then pressed out by squeezing with the fingers, in which operation the neighbouring parts are often bruised and inflamed, and the cavity filled with tow dipped in some digestive ointment, the cure is protracted, and often either a fresh abscess forms, or the matter from being confined, spreads into other

parts, so as to form what are termed sinuses or pipes. To hasten the process of suppuration, or the formation of matter, poultices are the best applications; but they should be renewed at least twice a day. When poultices cannot be conveniently used, fomentation should be substituted for them. An abscess should not be opened too early, or before the whole of the tumour has become soft; when this does not happen as soon as is expected, the bottom of the tumour remaining hard while the upper part feels soft, it is better to continue the poultice until the whole has become soft, or the upper part opens naturally; this natural opening is to be enlarged, should it be found necessary; and the poultice continued in order to soften or induce suppuration in the remaining hard swelling. When sinuses or pipes are discovered, they are to be laid completely open, and washed with a solution of blue vitriol or other detergent fluid. Abscesses sometimes form internally, as in the lungs, liver, &c. (See *Poultice, Fomentation, Tumours, Strangles, Vives, Fistula, Poll-evil, and Ulcers*.) Abscesses are sometimes said to be critical, or a consequence of fever or some other general indisposition; in which case they have been thought to be beneficial.

ABSORBENTS. Chalk, prepared oyster shells, bole, and other earths, that readily absorb fluids, are thus denominated. Preparations of this kind are sometimes given with a view to absorb or correct any hurtful matter that may be supposed to exist in the stomach. In cases of depraved appetite, for example, where horses eat their litter in preference to good hay, and are often seen licking the walls, and eating any earthy matter that comes in their way, such medicines are recommended. It is more probable, however, that this disposition depends upon a diseased state of the stomach, and that mild purgatives are the best remedies.

(To be continued.)

THE FARMER.

BALTIMORE, FRIDAY, AUGUST 27, 1819.

THE EMIGRANT.

FOR THE AMERICAN FARMER.

MR. EDITOR,

In one of the daily papers, some observations recently appeared, benevolently designed to excite our sympathy towards the distressed and disappointed emigrants who have taken refuge on our shores from that despotism from which they have endeavoured to escape in Europe.

Of that despotism, however *legitimate* it may appear on that side the Atlantic, few who are natives of this country have any correct ideas. Even those who have long since escaped from its oppressions and are now, or recently have been, in the full tide of prosperity, seem, in some degree, callous to the difficulties of the unhappy emigrant.

A Hibernian by birth myself, I would address myself chiefly, to the feelings of those, who have ever known or experienced any of those oppressive ills which have forced his fellow emi-

grants from the land of his native and parental attachment.

It is true, we have here a Hibernian Society. But from whatever cause it proceeds, though certainly composed of men who wish to cherish benevolent principles towards those whom they have pledged themselves to aid and encourage; yet I say to whatever cause it may be owing, the writer of this, confesses himself to be ignorant of any thing manifested by that, or indeed by any other Hibernian Society, consistent with the benevolence and hospitality, for which they take a pride in the character of their forefathers. Tell me ye sons of Hibernian characteristic benevolence, how many of either your doors, or your purses, are open to distressed Irish emigrants? Though many of you are blessed with profusion, and ready to run headlong into all sorts of extravagance, how little, extremely little, have most of you contributed to the relief of the distresses of the emigrant! As often as the tales of that distress reach my ear, how do I blush for the little efforts of our scanty benevolence! *Here and there*, a casual, trifling boon is bestowed; but where, ah, where can we find any well founded active system, adequate to relieve and to comfort, on any liberal or effectual scale, the many claimants that present themselves, especially in the summer?

It is not so much from National attachment, as from that duty which is religiously enjoined upon all who call themselves Christians, that it would become us to cherish benevolence towards the emigrant stranger. What a sublimely pathetic appeal to our hearts is made by the Divine author of that religion we profess! "*I was a stranger and ye took me not in!*" Let the heart that feels not all the moral bearing and obligation of these sacred words, go to its kindred—and renounce the name of MAN.

Alas! when my eye meets, which of late is not seldom, the friendless emigrant—a parent—with an infant in the hand—or on the bosom—that may yet fight the battles of this, my country—wandering houseless on our roads, or in our streets—looking in at every door—but no door open for hospitable reception—with a countenance rueful with reflection on all the ills, and heart rending attachments it has left—and now like the dove of the Patriarch, finding in this, yea even in this wide and happy country, no sheltered spot whereon to rest the weary head or feet—is it possible to restrain the tear of sympathy? Shall this forlorn situation of the friendless stranger excite no regard? Am I a man, and shall I not be prompted to cheer and relieve my fellow men? Am I a Christian, and shall I dare to risk the doom denounced by my Saviour against those who "*take not the stranger in.*"

How lovely is that benevolence, which without hope of reward, or fear of penalty, has even the semblance of being entirely disinterested! But where—ah, where shall we look for its angelic face? If therefore, in these sad days of imperfection, our benevolence must be either founded on, or blended with sordid interest, do Mr. Editor, submit the following plan for the relief of emigrants to your many enlightened readers. Especially to such of them, who, as wealthy and extensive farmers and land holders, might lend their benevolent aid and influence,—let such

have erected on their lands, a few decent log cabins, as an asylum for such friendless and destitute emigrant families, as they could accommodate. Let such of these as are able and willing to work, be employed and receive moderate wages for a time, in consideration of the accommodations with which they have been furnished. Let the term of their occupancy of these asylums, be at their option, but not exceeding a certain period agreed upon. And when employed, the wages and encouragement given to them, be in proportion to their merit and diligence.

They would thus be enabled immediately on their arrival, to resort at least to the shelter of a house—and if entirely destitute, have some prospect of sustenance for their family. They would also be enabled to acquire a knowledge of our modes of labour and agricultural improvement—and would be saved from the corruption of the dissipated, who are in wait, either to rob them of any little they possess, or to seduce them to share in their own idle and profligate habits.

I presume there can be little doubt, that were proper pains taken to inform emigrant families, that such asylums were ready to receive them, they would be induced to resort to them immediately on their arrival—and it would then become the duty of the Hibernian Society, to see that the advantages to the proprietor who had prepared these asylums, and to those accommodated, should be justly reciprocal.

Indeed I have often thought it strange, that the Hibernian Benevolent Society, long ere this time, had not, on some proper plan, possessed themselves of a few hundred acres of land, and have put up, for this purpose, a few cabins for destitute emigrant families, or individuals, to be sheltered and employed until they could better dispose of themselves.—Such a property might be rendered mutually beneficial. The land would be cultivated by the emigrants—its value, in time, greatly enhanced—and its annual produce might by economical management not only sustain such hands as would be permanently employed on the place; but the surplus, when stored, and carefully preserved, might supply such emigrants as might be accommodated on the ensuing summer.

Such an asylum is certainly neither impracticable, nor is it discouraging with respect to expense. By proper management it might be brought to support itself. And should the society at a future period be disposed to sell the land, when thus highly improved by culture, with the proceeds they might do more than purchase a new asylum, or establishment to be improved in like manner.

Thus, in a progressive ratio, they might enlarge the bounds and increase the value of the property. Other benevolent Societies, the St. George's, St. Andrew's, St. Dennis's, &c. might follow their example, and a laudable rivalry be raised and supported among all the benevolent patrons of the honest and industrious emigrant. Each farm might thus be rendered an agricultural school for exhibiting their respective national improvements in farming—and some premiums might be conferred on those who manifested most merit or diligence, or who

introduced any agricultural improvements into the country of their adoption.

BENEVOLUS.

August 14th 1819.

Escape from the Penitentiary.

Nine prisoners made their escape from the Penitentiary in this city, on Sunday night last, under circumstances leaving little doubt that they were aided by some person or persons at liberty. On Monday, says the Gazette, the several officers of the Penitentiary were examined before Judge Brice, respecting the circumstance of their escape. It appeared that the locks of the doors of three of the rooms in which the criminals lodge at night, had been unlocked; the locks being on the outside of the room doors, in a passage in which the guard was accustomed to walk: that the only person on guard when they escaped was Richard Chapman, who stated, that the criminals after getting out of their lodging rooms, knocked him down and passing him, escaped at the front door; that he fired a pistol after they passed to alarm the keeper and officers. The explanation of Chapman being unsatisfactory, and the circumstances being such as to induce strong suspicions of his having aided in or connived at the escape, he was committed for trial.

Four Captains and a Lieutenant of the navy, have been suspended from command, by Commodore Stewart, of the Mediterranean squadron. It seems, if report be correct, that the Commodore saw fit to reprimand them in consequence of disapproving of a sentence of a court martial of which they were members and a reply from them caused their suspension. The gallant *M'Donough* is said to be one of the officers suspended.—

The frequent disagreements which have taken place between our naval officers, since the war, is a subject of mortification and of deep national regret.—We are aware, that where high and honourable feeling is to be maintained, that frequent collisions may arise, where tempers are not properly chastened, and differences of opinion, impetuously defended, too frequently lead to results, deplorable in a national point of view, unhappy as it regards the families of the individuals, and derogatory to those immediately concerned. We could wish, in common with our country, most sincerely and ardently, that these unfortunate occurrences were less frequent; that the discipline might be maintained without assumption; and inferiority confessed where no degradation is implied. And we wish also, that where differences do arise, they might be always amicably adjusted unless they should unfortunately rest upon more substantial ground than has been assigned for several regretted incidents which have recently occurred.

The extensive printing establishment of Mess. Bensley & Son, in London, was lately consumed by fire. Loss estimated at £. 130,000.

Liverpool Markets, July 5, 1819.

Our Cotton market has exhibited this week more life than we have experienced for a long

time past; but principally in American descriptions, in which considerable business has been done on speculation, in consequence of which disposition, holders have, within the last two days, obtained an advance of 1 2d per lb. on Bowed and New Orleans, and other descriptions have fully supported former rates, though the demand has been comparatively limited.

Tobacco still exhibits a tendency to decline; particularly qualities suitable for export. Kentucky leaf has depreciated 3-4 a 1d per lb. a parcel having been sold at 3 1-4d with some ordinary sound Virginia, at 3 2d per lb; good ordinary to middling however, support the previous quotations. The trade have bought sparingly.

American Stocks—U. S. Bank, 1.20 5s has been offered and refused: U. S. Six per cents, 98 a 100: Spanish Dollars 5s 1-2d per ounce.

Imports of Foreign Corn—The ports are now closed against the importation of Foreign Barley, Oats and Peas from all ports between the Byder and Bidassoa: for all these recited articles the ports will continue open for the importation from all other countries, till the 21st of August next.

Extract of a letter from an American Gentleman at Fayal, dated 13th July.

"The Russian frigate Kamschatka, that has been nearly three years on a voyage of discovery, stopped here on her return home, and remained three weeks—The commander, Golownin, is celebrated from the circumstance of his captivity several years in Japan, and his account of that country, now passing the rounds of the periodical publications. He, with the principal officers and scientific gentlemen of his suite, were entertained by Mr. Dabney, the United States' Consul at the celebration of Independence, at his house, and all expressed the highest respect for our country and republican institutions. The dinner was succeeded by a ball, attended by 120 ladies and gentlemen, highly gratifying to the Russian guests.

The landscape painter did the consul the favour to sketch that part of the town and harbour where the attack on the Brig General Armstrong took place, which he has forwarded to Capt. Reid, who so gallantly defended that vessel.

It is understood that the want of such a drawing had retarded the execution of an engraving representing that extraordinary action.

From the Archives of Useful Knowledge,

TO CONVEY FISH.

A crumb of bread is to be soaked in brandy, and when swelled the fish's mouth is filled therewith, into which a half glass more of the spirit is then to be poured. The fish remains motionless, and as if deprived of life, in which state it is to be wrapped in fresh straw, and afterwards in cloth. In this condition they may be kept, or conveyed to any distance for 8 or 10 days.—When arrived at the place of destination, they must be unpacked, and thrown into a cistern of water, where they remain a quarter of an hour, or sometimes an hour without showing any signs of life; but at the end of that time they disgorge

very abundantly, and recover their life and ordinary motions.

Catfish may be conveyed in a cart for many miles, by being surrounded with fresh grass, provided spring water is frequently dashed over them. The journey ought to be commenced a little before day, so that the fish may be put into a pond destined for them, before the heat of the day.

Dr. Mitchell of New York, relates, that in 1790, he in company with another gentleman, transported yellow perch 40 miles, viz. from Rockonkoma pond, in Suffolk county, to Success pond, in North Hempstead, Long Island. Three dozen of those who had been most superficially wounded by the hook were taken, and all except two swam away when put into the pond. A large churn was filled with the water of their native pond, and so few fishes put in that there was no necessity of changing it on the road, and afterwards driving steadily on a walk the whole distance, without stopping to refresh either man or horse. In two years these fishes multiplied so last, and became so numerous, that they might be caught with the hook in any part of the water, which was about a mile in circumference.

Pittsburg, Penn. Aug. 13.—The depredations now committing by the Grasshoppers, in some parts of the country, are truly singular and alarming. Many farmers have commenced cutting their oats completely green, and many meadows are shaved perfectly smooth—An instance has occurred, of a hat accidentally left in a meadow, being entirely destroyed.

DIED.

At Cambridge, his residence, on Tuesday morning 3d inst. LEVIN H. CAMPBELL, Esq. of a sudden and violent bilious disease, which in the short period of two days, from the highest health and spirits, bereaved a wife of a most kind and affectionate husband, and infant family of the most tender and doating father, two helpless sisters of their only friend and protector, society of a member whose loss will be deplored while virtue is regarded: a loss which has inflicted on at least one bosom friend, a wound never, never to be healed.

In the meridian of life—in the zenith of a character constituted by the most amiable as well as brilliant qualities that adorn the soul of man—vanished this mortal ornament of human nature.

Possessed of a strong and vigorous mind, highly cultivated by diligent application, and an ardent thirst for knowledge, he attained an unusual proficiency in the various departments of science, which rendered him highly useful to the society in which he resided from his youth.

Kind, benevolent, hospitable and generous, he was beloved by all who knew him.

Charitable to excess, and beyond the prudent allowance of his limited finances, the indigent widow and the helpless orphan will long deplore the irreparable loss of their dear friend.

Possessed of a lively mind, a social disposition, and versatile talents, men of every class and condition were made happy in his company;—his correct principles, and deportment, his pure and

sympathising heart, riveted and secured forever the affections he had won.

That he was sincere and immutable in his friendship, the mournful author of this faint picture can bear witness, from the enjoyment of his unlimited confidence, and of a mutual and disinterested friendship: love and they lived in harmony from their early youth, at college a period of twenty five years, and thence to the sad moment when the fell messenger of death summoned him to his God, in the fullness of his virtues, to appear at the bar of infinite justice, and be recorded in the book of life eternal.

Cambridge, Aug. 5. 1819.

Present Prices of Country Produce

Ascertained by actual sales, within the last week.

WHITE WHEAT—Sales on Monday last, at \$1 13 a 1 15—Yesterday, 1 18 to 1 22½ best quality. Red Wheat—Sales on Monday \$1 10. Yesterday at \$1 13. Corn 50 a 60 cts.—Oats 45 a 50 cts.—Rye 50 a 55 cts.—Tobacco six hhds. from Calvert County, sold by J spicknall, at 8 and \$10—one do. at \$11—two hhds. wagon Tobacco, 10 and 13 dollars.

GENERAL BOYD.

The British House of Commons passed a resolution on the 28th June, to allow Gen. Boyd, a native of the United States, lately of the army, 6000 pounds sterling, in consideration of his services in the British army in India, at an early period of life, when the affairs of that nation, in that quarter, were in a very critical state. Mr. Wilberforce, who brought forward the resolution, stated, that it was very desirable to show the inhabitants of the United States, by the proceedings of the British house of Commons, that they do not consider them with any unfriendly feeling, or entertain towards them any prejudices incompatible with the full performance of justice.—*N. Y. E. Post.*

Circulation of the London Observer.—The Editor of this Journal, which is issued only once a week, has published a detailed statement of the sale of his publication, during the year ending on the 2d of May last. By this statement, it appears, that the smallest number of papers issued on one day was 10,400; the largest number 13,925, and the total number in the year, 602,224. We presume there is no other weekly paper, published in any other part of the world, which has so great a circulation. The Editor closes his detailed statement with the following remark: "It may not be wholly uninteresting for the reader to know, that the amount paid to the revenue for 602,224 impressions, independent of the excise upon twelve hundred and four reams of paper, at three pence each pound weight, and the duty of three shillings and sixpence upon every advertisement, made a total sum contributed to the revenue by the Observer Journal, in one year, of about ten thousand pounds, and that for only fifty-two publications."

PRINTED EVERY FRIDAY,
FOR

JOHN S. SKINNER.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O Fortunatos nimium sua si bona norint
Agricolae. . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, SEPTEMBER 3, 1819.

NUM. 23.

AGRICULTURE.

Mr. Madison's Address.

AN ADDRESS delivered before the Agricultural Society of Albemarle, [Virginia,] on Tuesday, May 12, 1819. By Mr. MADISON, President of the Society.—[Concluded from No. 22, page 171.]

But it is a resource for re-fertilizing the soil, that the corn stock finds the proper place here; and as such it merits particular notice; whether it be passed through animals; or be prepared by fermentation in the farm yard; or be merely spread on the surface of the earth, the mode in which its effect must be least considerable. The same qualities which render every part of it nutritious to animals, render it nutritious to the earth, and it is accompanied with the peculiar advantages: 1, that the grain itself is mostly every where, and altogether, in places distant from navigation, consumed within the farms producing it; 2, that as the grain is in greater proportion to the space on which it grows, than most other grains, so the rest of the plant is in greater proportion to the grain, than the rest of any other grain plant. The straw and chaff of the smaller grains, as already remarked, is in weight but about one half the grain. The corn stock with all its appurtenant offal, is of not less than three times, and if taken early from the field, probably of not less than four or five times the weight of the grain belonging to it; 3, the fertilizing matter contained in the corn stock is greater, in proportion to its weight, than that contained in the straw and offal of other grains is to the weight of the straw and offal.

Would it be hazardous too much to say, that where a level surface, or the mode of cultivating a hilly one, prevents the rays from carrying off the soil, a restoration of an entire crop of Indian corn, in the form of manure, to the space producing it (there being no other intervening crop not so restored) would replace the fertility consumed by the crop, and maintain a perpetual productiveness? Reason, the case of forest and fallow fields, where the spontaneous crop falls back of itself, to the earth, and the Chinese example, where the cultivated crop is restored to the earth, all pronounce that such would be the effect. And yet the fact stares us in the face, that our most impoverished fields, even the most level of them, owe their condition more to the crops of Indian corn, than to any other crops.

The articles of fodder which are least neglected as a fund of manure, are timothy and clover hay. But the average quantities on farms are not as yet very great; and seldom yield more than stable manure for gardens and culinary crops.

The cotton plant, which is so extensive a crop, in the more Southern and the South-western States, is but little cultivated in Virginia, and scarcely at all in this part of it. I am not able to say how far it is comparatively an exhausting crop. But it would seem to be more capable than any other crop, not wholly consumed within the farm, of preserving its fertility. The only part of the plant carried away is the cotton fibre or woolly part, which bears an inconsiderable proportion to the other parts in weight, and as may be inferred, in fertilizing matter also. The seed alone, passing by the ball and the haulm, is three times its weight, and contains the chief part of the oil in the plant. In the countries where cotton makes the principal part of the crop, the superfluous seed must deserve great attention as a manure. Where the fields are level or cultivated in horizontal drills, it might go far towards supporting a continued cropping without a diminished fertility.

The sum of these remarks on cultivating poor land, and neglecting the means of keeping or making land rich, is, that if every thing grown on a soil is carried from it, it must become unproductive; that if every thing grown on it be directly or indirectly restored to it, it would not cease to be productive; and, consequently, that according to the degree in which the one or the other practice takes place, a farm must be impoverished or be permanently productive and profitable. Every acre made by an improved management to produce as much as two acres, is in fact the addition of a new acre, with the great advantages of contracting the space to be cultivated; and of shortening the distance of transportation between the fields and the barn or the farm yard. One of the Roman writers,* on husbandry, enforces the obligation to an improving management by a story of one Paridius who had two daughters and a vineyard: When the elder was married, he gave her a third part of the vineyard; notwithstanding which, he obtained from two thirds, the same crop as from the whole:—when his other daughter was married, he portioned her with the half of what remained, and still the produce of his vineyard was undiminished. The story, short as it is, contains a volume of instruction.

The plaster or gypsum, though not a manure within the farm itself, has been too long neglected as a fertilizing resource. It is now beginning to take a high and just rank as such. The proofs of its efficacy are as incontestable as the causes of it are obscure. The experiments of a very distinguished chemist,† led him to the opinion, that its substance enters into the

substance of the plant. Without doubting the fact, it does not sufficiently account for the addition made to the size and weight of the plant, which greatly exceed the quantity of the plaster. It must, therefore, have some further mode of operating. Whether it be by neutralizing some noxious ingredient in the earth, one of the modes by which lime is supposed to operate, or by attracting and conveying to the plant, food from the earth, the air or water; or by exciting the plant to a more active use of its feeding powers, whatever they be; or by its accretion and assimilation to particular parts of plants on which these powers depend—thereby augmenting and strengthening those particular parts, and enabling the feeding powers to give proportional augmentation to every other part; whether by any one or more of these processes, or by some other or others distinct from them all, the growth of plants be promoted by this mineral, remains, it would seem, to be yet explained. In the mean time, a more extensive use of it, promises much advantage to our agriculture. I take it, however, that this advantage cannot be permanent without making the increased product of the soil, a source of manure to the soil. That the effect of the plaster will be continued indefinitely, under a constant removal of the whole crop from the soil, surpasses belief. It can scarcely fail to exhaust at length, the productive powers of the earth. The period of time necessary for the purpose, may be uncertain; but that as in the case of other mineral manures, lime and marl, such must sooner or later, be the result, cannot well be so. The effect of pulverizing the earth by tillage, as practised by Tull, is stated to have been uninterrupted crops of wheat, without manure, for more than twenty years; which was regarded as a demonstration, that tillage was a complete substitute for manure. Supposing the statement to be free from error, the inference is certainly not warranted by the fact. We know that some of our soils, not naturally richer than the highly manured soils on which Tull probably commenced his tillage, will bear a succession of crops for an equal period; and we know as well that their fertility will not hold out forever. How long plaster, whatever be its mode of operation, will hold out, may not yet have been fully tried.—

But to make it permanently successful, it will be wise to take for granted, that it must be made a source of future manure, as well as of immediate productiveness. If the crop, as augmented by the plaster, be given back to the soil, the soil may be benefitted more than it would be, by the return of a crop not augmented by the plaster. And in this way, fertility may be accelerated. The restoration of a crop

* Columella.

† Sir H. Davy.

increased by ordinary cultivation, to the soil on which it grew, would, I presume, fertilize it more than the restoration of a smaller crop spontaneously produced; although in both cases, the whole taken from the soil would return to it.

IV. Among the means of aiding the productivity of the soil, which have not received merited attention, is irrigation. In scarcely any country does this resource abound more than in the United States; nor is there any where so little sensibility to its value. The inconsiderable use made of it, is chiefly by emigrants, particularly Germans or the immediate descendants of them. I have understood that the market of Baltimore has been much benefitted in dry seasons, by the irrigation introduced by exiles from St. Domingo. For a distinguished proof of the importance of the practice, I may refer to the fact which has been stated, that in the neighbourhood of Barcelona in Spain, where a part of the land is under irrigation, and a part is not susceptible of it, both being otherwise of equal fertility, the part irrigated is of double price in the market. It is to be noted indeed that the climate is a dry one, and that the article cultivated is Lucerne. But this is a plant, which though much aided in its growth by moisture, is at the same time remarkable for the length of a tap-root, and fitted by that, as well as by the absorbent quality of its leaves, to flourish in a thirsty soil and warm climate. Our particular district of country, abounding in springs, small streams and suitable declivities, admits greatly of irrigation; and being generally of a thirsty nature, the more strongly invites the use of it.

V. I cannot but consider it as an error in our husbandry, that oxen are too little used in place of horses.

Every fair comparison of the expence of the two animals, favors a preference of the ox. But, the circumstance particularly recommending him is, that he can be supported when at work by grass and hay; whilst the horse requires grain, and much of it; and the grain generally given him is Indian corn, the crop which requires most labour and greatly exhausts the land.

From the best estimate I have been enabled to form, more than one half of the corn crop is consumed by horses, including the ungrown ones; and not less than one half, by other than pleasure horses. By getting free from this consumption, one half the labour and of the wear of the land would be saved, or rather more than one half; for on most farms, one half of the crop of corn grows on not more than two-fifths, and sometimes a smaller proportion of the cultivated fields; and the more fertile fields would of course be retained for cultivation. Every one can figure to himself the ease and convenience of a revolution which would so much reduce the extent of his cornfields; and substitute for the labour bestowed on them, the more easy task of providing pasturage and hay.

But will not the ox himself when kept at

labour require grain food as well as the horse. Certainly much less, if any. Judging from my own observation, I should say, that a plenty of good grass or good hay, will suffice without grain, where the labour is neither constant nor severe. But I feel entire confidence in saying, that a double set of oxen alternately at work, and therefore half the time at rest, might be kept in good plight without other food than a plenty of good grass or good hay. And as this double set would double the supply of beef, tallow and leather, a set off is found in that consideration for a double consumption of that kind of food.

The objections generally made to the ox are—1. That he is less tractable than the horse. 2. That he does not bear heat as well. 3. That he does not answer for the single plough used in our cornfields. 4. That he is slower in his movements. 5. That he is less fit for carrying the produce of the farm to market.

The first objection is certainly founded in mistake. Of the two animals, the ox is the more docile. In all countries where the ox is the ordinary draught animal, his docility is proverbial. His intractability, where it exists, has arisen from an occasional use of him only, with long and irregular intervals;—during which, the habit of discipline being broken, a new one is to be formed.

The second objection has as little foundation.

The constitution of the ox accommodates itself, as readily as that of the horse, to different climates. Not only in ancient Greece and Italy, but throughout Asia, as presented to us in ancient history, the ox and the plough are associated. At this day, in the warm parts of India and China, the ox, not the horse, is in the draught service. In every part of India, the ox always appears, even in the train of her armies.—And in the hottest parts of the West Indies, the ox is employed in hauling the weighty produce to the sea ports. The mistake here, as in the former case, has arisen from the effect of an occasional employment only, with no other than green food. The fermentation of this in the animal heated by the weather, and fretted by the discipline, will readily account for his sinking under his exertions: when green food even, much less dry, with a sober habit of labour, would have no such tendency.

The third objection also, is not a solid one. The ox can, by a proper harness, be used singly as well as the horse, between the rows of Indian corn; and equally so used for other purposes. Experience may be safely appealed to on this point.

In the fourth place, it is alleged that he is slower in his movements. This is true; but in a less degree than is often taken for granted. Oxen that are well chosen for their form are not worked after the age of about eight years (the age at which they are best fitted for beef,) are not worked too many together, and are suitably matched, may be kept to nearly as quick a step as the horse. May I not say, a step quicker than that of many of the horses we see at work,

who, on account of their age, or the process occasioned by the costliness of the food they require, lose the advantage where they might have once had it?

The last objection has most weight. The ox is not as well adapted as the horse to the road service, especially for long trips. In common roads, which are often soft, and sometimes suddenly become so, the form of his foot and the shortness of his leg, are disadvantages; and on roads frozen or turnpiked, the roughness of the surface in the former case, and its hardness in both cases, are inconvenient to his cloven hoof. But where the distance to market is not great, where the varying state of the roads and of the weather, can be consulted; and where the road service is less in proportion to the farm service, the objection is almost deprived of its weight. In cases where it most applies, its weight is diminished by the consideration, that a much greater proportion of service on the farm may be done by oxen, than is now commonly done; and that the expence of shoeing them is little different from that of keeping horses shod. It is observable, that when oxen are worked on the farm, over rough frozen ground, they suffer so much from the want of shoes, however well tied they may be, that it is a proper subject for calculation, whether true economy does not require for them, that accommodation, even on the farm, as well as for the horses.

A more important calculation is, whether, in many situations, the general saving by substituting the ox for the horse, would not balance the expence of hiring a carriage of the produce to market. In the same scale with the ox, is to be put the value of the grass and hay consumed by the oxen; and in the other scale, the value of the corn, amounting to one half of the crop, and of the grass and hay consumed by the horses. Where the market is no distant, the value of the corn saved, would certainly pay for the carriage of the market portion of the crop, and balance, moreover, any difference between the value of the grass and hay consumed by oxen, and the value of the oxen when slaughtered for beef. In all these calculations, it is doubtless proper not to lose sight of the rule, that farmers ought to avoid paying others for doing what they can do for themselves. But the rule has its exceptions and the error, if it be committed, will not lie in departing from the rule, but in not selecting aright the cases which call for the departure. It may be remarked, that the rule ought to be more or less general, as there may, or may not be at hand, a market by which every produce of labour is convertible into money. In the old countries, this is much more the case, than in new; and in new, much more the case near towns, than at a distance from them. In this, as in most other parts of our country, a change of circumstances is taking place, which renders every thing raised on a farm more convertible into money than formerly; and as the change proceeds, it will be more and more a point for consideration, how far the labour in doing what

might be bought, could earn more in another way, than the amount of the purchase. Still it will always be prudent, for reasons which every experienced farmer will understand, to lean to the side of doing, rather than hiring or buying what may be wanted.

The mule seems to be in point of economy, between the ox and the horse, preferable to the latter. inferior to the former, but so well adapted to particular services, that he may find a proper place on many farms. He is liable to the objection which weighs most against the ox. He is less fitted than the horse for road service.

VI. A more manifest error in the husbandry of the older settlements is that of keeping too many neat cattle on the farms. As a farm should not be cultivated farther than it can be continued in good heart, the stock of cattle should not be in greater number than the resources of food will keep in good plight. If a poor farm be unprofitable, so are poor cattle. It is particularly the case with the milch cows. When the whole of the food given them is necessary to support a lean existence, no part can be spared for the milch pail. The same food given to the proper number, will not only keep them in a thrifty state, but enable them to supply the dairy. Even the manure from several poor cattle is worth less than that from a single fat one. The remark holds equally good with respect to the hide.

The misjudged practice in question, is another effect of inattention to the change of circumstances through which our country has passed.—Originally the forest abounded in rich herbage which fed and fattened, without expence, all the cattle that could be brought through the winter into the spring. It was natural, at that time, to keep as large a stock as could be preserved through the winter. For a long time past, the forest is scarcely any where, a resource for more than two or three months, and in many places no resource at all. A greater difficulty is often felt in finding summer, than winter subsistence. And yet, where no inclosed pasturage is provided to take the place of the extinct one in the forest, the habit, founded in reasons which have entirely ceased, is but too generally retained.—The same number of cattle is aimed at, as if the forest was as ready to receive and fatten them now, as formerly. The size and appearance of our neat cattle, compared with those for which nature or good husbandry has provided sufficient food, are proofs that their food is not in proportion to their number; and that, where the food cannot be increased, the number ought to be reduced.

VII. Of all the errors in our rural economy, none is perhaps so much to be regretted, because none is so difficult to be repaired, as the injudicious and excessive destruction of timber and fire wood. It seems never to have occurred that the fund was not inexhaustible, and that a crop of trees could not be raised as quickly as one of wheat or corn.

Here again, we are presented with a proof of the continuance of the practice for which the reasons have ceased. When our ancestors arrived, they found the trees of the forest the great

obstacle to their settlement, and cultivation.—The great effort was of course to destroy the trees. It would seem that they contracted and transmitted an antipathy to them; for the trees were not even spared around the dwellings where their shade would have been a comfort and their beauty an ornament; and it is of late years only, that these advantages have been attended to. In fact, such has been the inconsiderate and indiscriminate use of the axe, that this country is beginning to feel the calamity as much as some of the old countries of Europe;—and it will soon be forced to understand the difficulty of curing it. A vast proportion of the farms on the eastern side of the Blue Ridge, and some even on the other side, have but a scanty fund for present use, and are without a fund for permanent use. And to increase the evil, the remnant of timber and fuel on many farms, inadequate as it is, is left in situations remote from the dwelling, and incapable of being divided according to the divisions and sub-divisions into which all the large farms must be rapidly forced by the law of descendents, the impulses of parental affection, and other causes.

It is high time for many farmers, even in this quarter, and still more so in the country below us, to take this subject into serious consideration.—Prudence will no longer delay to economize what remains of wood land; to foster the second growths, where taking place in convenient spots—and to commence, when necessary, plantations of the trees recommended by their utility and quickness of growth.

I wish I could more satisfactorily estimate the proportion of wood land which ought to belong to every farm, as a permanent fund of timber for building and repairing houses: for fences, where live or stone ones may not have been introduced; for wheel carriages and the other apparatus needed on farms. The estimate is the more difficult, because it must be varied to many circumstances: particularly, according to the nature of the soil and the kind of trees at once suited to it, and to the uses to be made of them.

Estimating the crop of wood yielded by an acre at twenty cords, the period of reproduction at twenty years, and the average number of cords annually consumed at a fire place, including the culinary consumption, at ten cords; every fire place on a farm will require ten acres for a permanent supply of fuel. For the other necessities of the farm, several acres more ought to be added.

An estimate in a very sensible publication, entitled "The New England Farmer," makes seventeen acres necessary for a fire place. The winters there are longer, and the climate may be less favourable to the quick growth of trees.—But their houses are generally closer than with us: to say nothing of a more judicious management than can be enforced on most of our farms.

To this catalogue of errors in our rural economy, considerable as it is, many, I fear might be added. The task of pointing them out, I gladly leave to others, less incapable than I have shewn myself to be, by the very imperfect manner in which I have performed the one on which I ventured.

From the *American Practical Gardener*, published by Fielding Lucas, jun.

For the Month of September.

Wall and Espalier Trees.

Where there are any straggling branches of these trees, train them in, and fasten them firmly in their places.

The early kinds, attached to the walls of the forcing house, should towards the end of this month, be pruned and trained close to the trellis, that their buds may be prepared, as early as possible, for the application of the artificial heat.

Gathering Fruit.

Gather apples and pears when they are perfectly ripe on a dry day—

Prepare for planting.

Towards the end of this month, prepare the places in which fruit trees are to be planted, in October or November, by trenching the ground, eighteen inches deep, adding a full supply of well rotted manure.

Strawberries.

There are six principal varieties of the *Fragaria*, or strawberry, cultivated in gardens. 1. *Fragaria Virginiana*, common wood, or scarlet strawberry. 2. Hautboy strawberry. 3. The Chili strawberry. 4. Alpina, alpine or monthly strawberry. 5. *F. Ananas*, or pine apple strawberry. 6. The white strawberry.

In the cultivation of strawberries, much depends on the choice of plants, for if they are taken promiscuously, without care in selecting them, you will in a short time have all male plants. The Hautboy strawberry, is more subject to this than any of the other kinds. The plants should therefore be taken from the most fruitful ones, and the runners especially, which shoot from, and are next to the bearing plants, should always be preferred. Endeavour therefore to make yourselves acquainted with the difference between the male and female parts of this plant, as many of the blossoms abound with stamina, or male organs, and have but few styles, or female organs; these male plants of course ought to be pulled up from the beds, by this means you may select the best for your new plantation. The plants should never be taken from old neglected beds, as these will almost always fail to produce much fruit.

In general, this plant loves a strong loamy ground: which should be somewhat moist, as they thrive best in such a soil.

When the weather is moist, make your general plantations of strawberries. The sets of young runners next the full bearing vines should be taken off in June, and planted in nurseries, for this purpose, and when transplanted into their beds for fruiting, the roots should be trimmed and the decayed leaves and runners (if there be any) picked off.

The ground should be previously well manured and dug, then laid out into beds of three and a half feet wide for convenience, with alleys of fifteen inches between. The roots are to be planted in rows. Close the earth about each root, and water them plentifully, when finished.

Keep the old strawberry beds clean from weeds.

Collecting Ripe Fruit.

Such apples and pears, as have attained to full maturity, must be gathered in a dry day, wipe them well and lay them carefully by.

When it is intended to plant fruit trees in October and November, the ground must be now prepared, as before directed.

General Observations.

Take every opportunity with the hoe, in dry weather, to clean out all the weeds from the seed-beds and young trees, shrubs, &c.; hand-weed, where necessary, continue to water regularly all the plants in pots or boxes, also the new planted flowers, when the weather is dry.

Towards the latter end of the month, begin to set in pots singly, the young tender plants, which were raised from seed this year; place them in the shade for about three weeks, until they are newly rooted; after which, place them in a warm exposure, till the

approach of frost, when they must be removed into the green-house.

Embrace every leisure moment, to dig and prepare all vacant places, in which fruit tree stocks, trees, or shrubs are to be planted in October or November.

Budding or Inoculating.

Continue to inoculate peaches, nectarines, and almonds.

Untie the bandages of such plants, as have been budded three or four weeks,

Propagating Trees, and Shrubs, by Cuttings and Layers.

Begin in the last week of this month, to propagate gooseberries, currants, honey suckles, and several other hardy trees and shrubs, by cuttings; plant them in shady borders. However, this is better done in October; for wood imperfectly ripened, when cut off and planted in this month, seldom can bear the heat of the sun in our climates, unless it is, for some time after, screened therefrom.

The general propagation by layers, may be commenced towards the latter end of this month. As before directed.

Fruit Stones.

Peach, plum, cherry stones, &c, may now be planted, as before directed.

Trimming Pines and Firs.

Where pines, firs, and other resinous trees, require some of their branches cut off, this is the best time in the year, for trimming them, as they are not so apt to weep now, as in the spring, and their wounds will have time to heal before winter.

Walnut trees, and maples should also be trimmed at this season, for the reasons above mentioned.

General Remarks.

All beds, borders, &c are to be kept clean from weeds, and neatly raked. The digging of vacant beds, and borders, to be attended to, for planting bulbous roots, and the biennial and perennial fibrous rooted flowers. Collect all such seed, as may now be ripe.

Prepare now at all leisure hours, the different beds, borders, and composts, for the plantations of choice tulips, hyacinths, anemones, ranunculuses, and other flower roots, which are to be set out next month; also for the flowering shrubs, that no business may be unnecessarily hurried or slighted.

Pinks and Carnations.

The layers of Pinks and Carnations, as well as the pipings, which are well rooted, not before taken from their parent stock, may now be separated, and planted out in pots or borders.

The seedling pinks and carnations may now be planted out, where they are intended to remain: take each plant up with a ball of earth, and give it some water, after setting it in the ground.

Chrysanthemums.

In the beginning or middle of the month, plant cuttings or slips of the young shoots, five or six inches long, of some of the best double sorts, planting several together in large pots, to be protected through the winter: they will strike root, and form proper plants, to transplant for early flowering next summer.

Auriculas.

The Auricula plants require the same attention, as heretofore directed. protected from the mid-day sun, moderately watered, &c. Particular care must be taken to keep both the seedlings, and the other auricula plants, free from weeds of every kind, to keep the earth in which they are planted, in a moderate state of moisture state of moisture, that the plants may grow freely, and obtain strength before winter.

Ranunculus Aconitifolius.

The double flowering variety of the aconite-leaved crowfoot, or fair maid of france, is greatly esteemed for the delicate beauty of its numerous flowers. It is perfectly hardy. The flowers are a pure white, and very double: the root is perennial, and composed of many strong fleshy fibres, like that of the garden ranunculus, and increasing in the same manner.

This beautiful plant flowers in the latter end of May, and beginning of June, and may be propagated

by taking up the roots, at any time after the leaves decay, separating the off-sets, carefully preserving the crown unharmed, and planting them in good garden earth, covering the crown about two inches with earth. If planted in pots, they will require some protection, and but little water, in winter. This plant has a beautiful appearance, when in flower, in rooms and windows, as well as in borders and beds.

Sow Seeds of Bulbous Roots.

The seeds of hyacinths, tulips, and other bulbs, may now be sown, as directed in last month.

Hardy Annuals.

Larkspurs; persicaria, adonis, &c. may be sown, in borders, the latter end of the month, to come up early in the spring, in the places where they are to remain.

Transplant Biennial and Perennial Flower Roots.

The various kinds of Biennial and Perennial seedlings may be planted out, the latter end of this month, from the flower nursery, into the borders, &c. where they are designed to bloom.

Also plant out double catch fly, pinks, London pride, dracocephalus, sweet-william, thrift, scarlet lychnis, double rose campion, double rocket, and every other kind of hardy fibrous rooted perennials, that are past bloom.

Cut down decayed stock of perennials, and if they are not to be transplanted, bring some well rotted dung to the borders, and dig the ground about them, which will refresh and strengthen their roots.

Planting Bulbous Roots.

Spring crocuses, snowdrops, fritillarias, the various kinds of Irises, scarlet martagons, white and red lilies, crown imperials, (for the method of planting these last, see directions as before given) as well as all other flower bulbs, which do not agree with being kept long out of the ground, should now be planted.

Common tulips, hyacinths, narcissus, and other hardy spring flowering bulbs in general, may now be planted in borders, &c. in small clusters, four or five in a place, covering the roots four or five inches deep with light loose earth.

Tuberous rooted flowering Plants.

Paeonias, flag irises, winter aconite, &c. may now be propagated by slipping their roots.

Hydrangia Hortensis.

The garden Hydrangia, a beautiful flowering plant, may now be taken out of the old pot, its slips taken off, and all re-planted again in pots, and protected in the green-house, or other shelter, through the winter.

Double Daisies.

Some of the choicest of these modest little flowers, may be taken up, with balls of earth to their roots, planted in small pots; water them immediately, and screen them from the sun, for a week or two, afterwards place them in a warm exposure till November.

General Observations.

If the roof lights had, in the course of the summer, been taken off any of the hot house departments, they should be re-placed early in this month, and all the wood and glass work put in the best possible repair.

Give a complete and thorough cleaning, painting, and whitewashing, to every part of the house; and if infested with insects, fumigate it effectually. Wash the inside entirely with a very strong solution of corrosive sublimate, clean every particle of old bark out of the pots, carry it off to a considerable distance, and replace it with fresh tan, the plants remaining in this department, while this is performing, should be thoroughly washed and cleaned, before they are replaced. This cleansing, fumigating, &c. will destroy most, if not all the lurking insects, which have taken shelter in different parts of the house.

Taking in the Plants.

The more tender kinds of house exotics, which are arranged out of doors, should in the middle states, be taken into the green house, about the tenth of this month, and the others successively, so that the whole collection may be in by the eighteenth or twentieth, or a few days earlier, should the weather happen to be cold, here they are to remain, closing the

windows at night, giving them all the air possible in mild days, till towards the end of the month or sooner, if you have the hot house ready for their reception.

When plants are placed in order in their winter quarters, give them a plenty of air every favourable day, by sliding open the upright glasses, and also the roof lights if necessary; for the fresh bottom heat will give new action to the plants, and render an abundance of air highly requisite; observe, however, to close the lights early every evening, and to open them as early in the morning, as the thermometer rises to sixty degrees, Fahrenheit.

Succession Pines, Crowns, and Suckers.

The crowns, and suckers, of this year's production, may be placed in a dung hot-bed, and managed as directed for cucumbers, in January. When the nights begin to grow cold, cover the glasses, carefully with mats, and be very cautious not to keep your lights close, in sunny days.

Your succession pines, which are removed into the hot house, should have plenty of air at this season, which, with a moderate and steady bottom heat, will keep them in a growing and prosperous state.

Procuring Fresh Tan.

Procure a quantity of fresh tan, for the purpose of making new beds, in the next month. When the tan is brought home, it will be proper to throw it up in a heap to drain and ferment, for ten or twelve days, before it is put into the pits. But if it is very wet, as is commonly the case, when thrown up out of the tan vats, it should be spread thinly, for two or three days, that the sun and air may exhale the superabundant moisture, for if used too wet, it would be a long time before it would acquire a sufficient degree of heat.

Prepare Compost.

Prepare the compost proper for pines, as before described.

For the most of the shrubs and herbaceous plants of the hot house, prepare equal parts of good light garden earth, and mellow surface loam, from a rich pasture ground, with the turf; add to these a fourth of very well rotted hot-bed dung; let the whole be duly incorporated, and exposed to the weather, several months, before it is used, turning the heap over every four or five weeks.

FROM THE ALBANY ARGUS.

Treatise on Agriculture.

SECTION V.

Of Practical Agriculture and its necessary Instruments.

[Continued from No. 23—page 172.]

We begin this part of our subject with a few remarks on the instruments necessary to agriculture, which may be comprised under the well known names of the plough, the harrow, the roller, the threshing machine and the fanning mill.

1st. of the plough:

It is among the inscrutable dispensations of Providence, that the arts most useful to man, have been of later discovery—of slower growth, and of less marked improvement, than those that aimed only at his destruction. At a time, when the phalanx and the legion were invented and perfected, and when the instruments they employed were various and powerful, those of agriculture, continued to be few, and simple, and inefficient.

Of the Greek plough, we know nothing; and the general disuse of that described by Virgil and Pliny, furnishes a degree of evidence, that experience has found it incompe-

vent to its objects. With even the boasted lights of modern knowledge, scientific men are not agreed upon the form and proportion, most proper for this instrument. As in other cases, so in this, there may be no *abstract perfection*; what is best in one description of soil, may not be so in another; yet, as in all soils, the office of the plough is the same, viz. to *leave and turn over the earth*, there cannot but be some definite shape and proportions, better fitted for these purposes, and at the same time less susceptible of resistance, than any other.

This beau ideal, this supposititious excellence, in the mechanism of a plough, has been the object of great national, as well as individual research. In Great Britain, high prizes have been established for its attainment; and in France, under the ministry of Chaptal 10,000 francs, or \$2000 were offered for this object, by the agricultural society of Seine. In both countries, the subject has employed many able pens. those of lord Kaims, of Mr. Young, of Mr. Arburthnot, of lord Somerville, and of Messieurs Duhamel, Chateauxvieux, Bose, Guillaume, &c. It is not for us therefore, to do more than assemble and present such rules for the construction of this instrument, as have almost attained the authority of maxims.

1st. The *beam*, or that part of the plough which carries the coulter, and furnishes the point of draft, should be as near that of resistance as possible; because these are approached, the less is the moving power required. Even the shape of the beam is not a matter of indifference. In the old ploughs, it was generally straight, but a small curve is now preferred because it has the effect of strengthening the coulter, by shortening it.

2^d. The *head* of the plough, is the plain on which it moves. This should be concave, because that form offers fewer points of friction, and, of course, less resistance. Between the beam and the head, is an angle, on which depends the principal office of the plough; the making, at will, a deep or shallow furrow. If you wish a deep furrow, diminish the angle, and vice versa: but this angle should, in no case, exceed from 18 to 24 degrees.

The resistance made to the plough being produced less by the weight of the earth, than by the cohesion of its parts, it is evident, that the head should be shod with iron, and rendered as smooth as possible. This remark applies equally to the soc and to the mould board.

3^d. The *soc* in its widest part, should be larger than the head. It has different shapes in different countries. In some they give it that of an isosceles triangle: in others, that of the head of a lance: in Biscay, a crescent; and in Poland, a two pronged fork. But, whatever be its shape, it should be well pointed and polished—enter the earth with facility, and cut it easily.

4th. To the *mould board*, some workmen give the shape of a prismatic wedge: others make the upper part convex, and the lower concave; while many make it entirely flat. In stiff soils, the *semi cycloid* is the form to be pre-

ferred, and in loose friable soils, the *semi elliptic*.* The iron mould boards have great advantages over the wooden, particularly when they, the shear and the soc, form one piece, as in the ploughs of Mr. Cook.

It is a general opinion, that a heavy plough is more disadvantageous than a light one; because the draft of the former, being greater, will be more fatiguing to the cattle; but the experiments of the agricultural society in London, establish a contrary doctrine, and show, that in light grounds, the labour is more easily and better performed, with a heavy, than with a light plough.

5th. The *Cutter* is a species of knife inserted in the beam, and so placed before the soc, as to cut the sod. It is susceptible of being raised or depressed at will.

6th. The handles of the plough, ought to be made of some kind of heavy wood, that they may operate as a counter weight to the head, the soc and the mould-board.

To these remarks we subjoin two sets of experiments, made with the most approved French and English ploughs—that of Guillaume, and Small's *Folkham plough improved*, which furnishes a means of comparison between the best plough of Europe and those of this country.

The resistance (stated in these tables) was measured and ascertained by a *dynamometer*, a machine, indispensable to those who would make correct observations on the relative advantages of different ploughs.

The French plough.		The English plough.	
Resistance in pounds.		Resistance in pounds.	
1st experiment	200	1st experiment	360
2d do.	240	2d do.	380
3d do.	200	3d do.	480
4th do.	220	4th do.	460
5th do.	220	5th do.	400
		6th do.	400
		7th do.	420
		8th do.	386
		9th do.	440
Divided by 5)	1080	Divided by 9)	3726
Average,	216	Average,	414

II. The *harrow*. This is of different kinds—the triangular and the square—the single and the double. But of whatever form, its uses are the same; to smooth the field after ploughing, to break and pulverize the clods and to cover the seed.—These uses, sufficiently indicate the propriety of employing two in succession; one of heavy frame with few and long teeth, like the Scotch brake; the other, of lighter construction, with more and shorter teeth. Our own experience leads us to believe that the common harrow covers the seed too much, because small seeds will not vegetate at a depth greater than three inches.

III. The *roller*, is a cylinder of heavy wood, turning on gudgeons, or an axle, and placed in a frame, to which is attached a shaft; it is of different dimensions, but need not exceed that which may be drawn by one, or at most by two oxen. This instrument is indispensable in good husbandry, yet is rarely used in

in ours. Its offices are three-fold—to render loose soils more compact; to break the clod on stiff ones, and on both, to compress the earth (after seeding) so that it be every where brought in contact with the grain. It is also usefully employed in reinstating the roots of meadow grasses, loosened and raised by the alternate freezing and thawing of the ground, and with a similar view, may be passed over winter crops early in the spring.

Its clod breaking and pulverizing property is much increased, by surrounding the roller with narrow bands of iron, two inches broad, three inches thick, and six inches asunder; or by studding it with iron points, resembling harrow teeth, and projecting three or four inches.

IV. The *threshing machine* is of English invention, and may be well enough adapted to the taste and circumstances, of rich amateurs, but not at all to those of farmers in general. Our objections to it are three,—the first cost, which is great, the quantum of moving power employed, which is equal to that of six horses, and the number of hands required to attend it, which is not less than four. We have seen, in France, a machine for the same purpose, but of much simpler structure—called the "*rouleau de de-fiquier*," which is only a *fluted cylinder*, yet simple and cheap as this was, it could not maintain itself against the more ancient instruments—the flail and the horse. Still it is to be hoped that new experiments may succeed better and abridge the manual labour usually given to this branch of husbandry, and, that the mechanical genius of our own country (which is not inferior to that of any other) may be the first to combine *power* and *heifiness* in this machine.

This hope is probably suggested by the description of a new invented threshing machine, now before me, and which may be permitted to transcribe from the letter of the inventor. "The machine I have built, is three feet wide. One horse will thresh, with much ease, as much wheat as can be laid on it by one man, (the straw to be taken away by another,) say, from *fifty to one hundred bushels in a day*, and the saving of grain will pay for the labour; for, I think, that with good attendance, not a particle of grain can escape with the straw. The expense of the machine will be from *fifty to seventy dollars*, exclusive of the moving power, which is a wheel, about ten feet in diameter, on an upright shaft, to which a lever is fixed to hitch the horse. Into this main wheel, a small one should be made to work, about two feet diameter on a shaft carrying a drum four feet wide. With this simple gearing, and drawn by a horse that walks well, the machine will give about eighteen hundred strokes in a minute, and if fully attended, will, without hard labour for the horse, thresh a bushel every three or four minutes. It stands in my barn, and may be seen and examined by any one."

V. The *Fanning Mill*: Other things being equal, the cleanest wheat is most easily preserved, and on manufacture, gives the best

* See Arburthnot on ploughs.

* Mr. L. McKeen, Poughkeepsie.

four and in the largest quantity. These considerations offer inducement enough for the employment of this machine, which, however, besides doing its business well, saves a great deal of time. It is too well known to require description.

The true theory of making and hanging gates exemplified by Thomas N. Parker, M. A. London,—1804.

All those who have travelled through Maryland and Virginia, must have been disgusted with the great number of heavy, ill constructed, and unwieldy Gates, which arrest the traveller and obstruct his progress at every half mile.

The more numerous divisions of real estates, and the increasing scarcity of timber, for fencing, must add to the present number of gates, which now probably average one for every fifty acres of arable land. The reader, therefore, who might otherwise regard it as an odd subject for remark, will at once see how far the true principles and economy of *Gate making* is worthy of elucidation in a journal like this, the main object of which is to suggest the best means of performing every agricultural operation, and to point out whatever may have a tendency to promote the saving of time, labour and materials.

We find the subject treated very fully and clearly, in an *ESSAY ON THE CONSTRUCTION, HANGING AND FASTENING OF GATES*, exemplified in six quarto Plates—by *Thomas N. Parker*—printed in London, in 1804—from which we here extract what appears most particularly applicable to the common swing gates used in our country.

It would be impossible to construct any thing with more entire disregard to the science of the thing, than the gates which we usually meet with, without any rational *proportion* in the weight of their several parts, and without any rule whatever for *hanging* them. We generally find them dragging on the ground two or three feet before they strike the post, or falling against it with such violence, as to shatter every joint in a few months; the farmer, not dreaming that all its movements may be adjusted with perfect accuracy and minuteness, by the regulation of the hooks and thimbles, and that the difference of a quarter of an inch in the length of the one or the other, makes an immense difference in the fall of the gate; and of course in its efficacy and durability, and consequently in the security of his crops, and the saving of his own time and labour. In other words, his *money* and his reputation as a farmer.

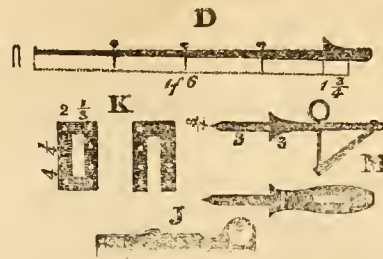


FIG. XIV—Is the upper thimble adapted for a gate opening one way; with an iron strap which is to fasten with screws along the top of the gate, either $1\frac{1}{2}$ foot long only, and furnished with a staple at the small end as at D. or made to extend the whole length of the gate, and finish with a round screw nut let into the fore part of the head of the gate, as at FIG. XVII; the thimble being bent $\frac{1}{4}$ of an inch bearing towards the hanging post. D represents the usual method of attaching the upper thimble to a short strap to be fastened on the top rail of the gate, with nails or screws and bent upwards at the small end to catch under a staple: this strap answers very well for an ordinary gate, and strengthens the mortise at the heel but that at the head of the gate is very little assisted by this short strap at the heel.

FIG. XV—Is the lower thimble of a gate proportioned to the upper thimble, *fig. xiv.* as $1\frac{1}{2}$ inch is to 3 inches, in regard to the distance between their centres and shoulders respectively. These thimbles are adapted for a gate whose hinges are 40 inches asunder; and as 40 is to $1\frac{1}{2}$, the difference in this instance, so should be any other distance from hinge to hinge to the proportionate difference or extra length of the lower thimble; and the greater the extra length might be made, over and above such proportion, the greater must become the velocity of the gate's fall, or tendency towards the line of rest, until its course is arrested by the fastening post 1-16 part of the circle, or 22 deg. 30 min. short of the line of rest. The lower thimble is let into the gate by a screw of equal substance throughout its length, or not tapered, in order that the adjustment of the thimbles, as to the velocity of the gate's fall, may be regulated to so great a nicety as half a turn of the screw: and the thimble may either be let into the heel of the gate, or lengthened out by a washer, as occasion shall require. The position of the thimbles, in respect to each other, must be favoured also the lower thimble, being placed $\frac{1}{4}$ of an inch out of the middle of the heel of the gate, in the contrary direction of the upper thimble, the whole difference, as to the distances of the two thimbles from the hanging-post, will be $\frac{1}{2}$ of an inch, and their vertical plane, which is the same as that of the lines of rest and equilibrium, will form an angle with the line of fastening of 22 deg. 30 min. or 1-16 part of a circle: this adjustment, in effect, adds 1-12th of an inch to the extra length of the lower thimble, so that by a plumb-line, it will be found (when the gate is hung upright, as it always ought to be) that the actual extra length of the lower thimble, or horizontal distance of the two centres from each other, will be $1\frac{1}{2} + 1-12 = 1\frac{1}{4}$ inch.

FIG. XVI—Represents the side view of FIG. XIV.

FIG. XVII—Gives the side view of FIG. XV.

FIG. XVIII—Is a complete gate for opening one way, and constructed in such a manner, that it shall not sink at the head, as ordinary gates are apt to do. The bars are let into the middle parts of the head and heel, and the braces are tapered for finishing upon a level surface with the heel, head, and rail; as is evident, in the following directions for the sawing out of the timber, which should be kind oak, not too tough, and entirely free from sap.

The waste in planing and finishing a gate may be allowed for, or not, as the gate is desired to be a little more or less strong; but when the timber is good, it is reduced so little by being planed, and finished

into a gate, that no allowance need be made for waste; or, at all events, if the sawyer attends to the dimensions recommended, the gate will be quite strong enough for its size.

Directions for sawing the Timber for the Gate.

FIG. XVIII.

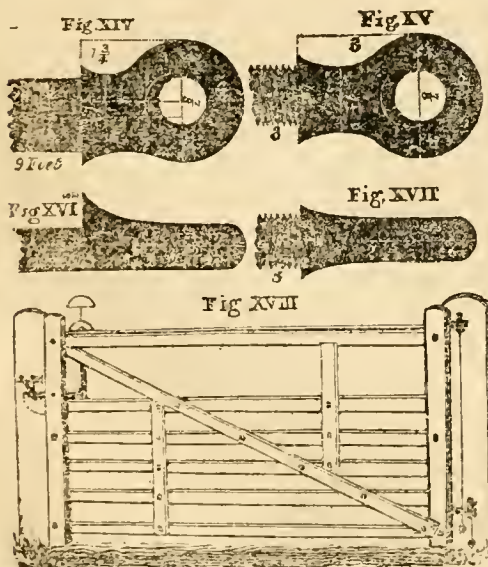
	Length.	Greatest thickness.	Tapered to the head.	Solid contents.
	f. in.	in. by in.	in. by in.	cubic in.
Heel	4 4.4 $\frac{1}{2}$	3 $\frac{1}{2}$		= 832
Head	4 4.2 $\frac{1}{2}$	2 $\frac{1}{2}$		= 325
Rail	9 0.3 $\frac{1}{2}$	2 $\frac{1}{2}$		= 972
5 Bars } each	9 0.3 $\frac{1}{2}$	2 $\frac{1}{2}$		= 1417 $\frac{1}{2}$
Diagon				
Brace, } 9 6..3 $\frac{1}{2}$	1 $\frac{1}{2}$	2 $\frac{1}{2}$	1	= 427 $\frac{1}{2}$
Larger upright	2 8	3 $\frac{1}{2}$	1 $\frac{1}{2}$	} = 250
Smaller do.	2 8	3	1 $\frac{1}{2}$	
				4224

which will be found to form a well-proportioned gate, the whole of the eight parts of the head presenting to the eye 2 $\frac{1}{2}$ inches; and seven out of the eight parts at the heel, that is, all excepting the heel itself, present 3 $\frac{1}{2}$ inches. Its solid contents of timber is 4224 cubic inches = 2 feet 5 $\frac{1}{2}$ inches, or nearly 2 $\frac{1}{2}$ cubic feet.

The diagonal brace is fitted into the heel by a strong buttment, even with the lowest bar, and its smaller end meets the upper angle at the head, and is confined laterally by two upright braces; which would keep up the rail, provided the head were not pushed forward; and that is prevented by an iron strap of equal length to the gate being attached to, or forming a part of the upper thimble in the first instance, where it holds the heel of the gate by the shoulder of the thimble: it is afterwards screwed to the rail at proper distances; and, lastly, secures the whole work together by a screw nut, rounded and let into the front of the gate's head.* By this arrangement, the gate is in fact suspended by an iron strap and rail, instead of the heel, which assists greatly in preventing any strain upon the mortises by the gate's own weight or otherwise. I cannot imagine a gate of a more durable construction, and it seems particularly well calculated for road-gates. The fastening is remarkably easy for a horseman to open, and is difficult, if not impossible, to be opened by cattle: the upright wire of the latch is furnished with a guard, and the mortise of the head of the gate through which the latch passes is finished with sheet-iron escutcheons, like those at K, the fastening being completed with the catch M, having a button in the place of the ring. J represents a cast iron latch which has been proved extremely well for the drop catches. I rode a horse that was very powerful and impetuous several times against a gate fastened with this cast metal catch; which was giving the catch as hard a trial as could be desired: and I am confident that the gate must have given way

* The iron strap is about an inch by a quarter of an inch in substance, for one half of its length, when it is tapered towards the head of the gate. At the end nearest to the thimble, it is made stronger for a few inches; and close to the shoulder of the thimble, it should be about an half inch square: the edges are chamfered off, and the whole appears to be gradually tapered from the heel to the head of the gate, widening a little round the hole which is left for the upright part of the latch adjoining to the handle.

In the preceding edition of this pamphlet, I acknowledge myself indebted to an ingenious mechanic for this pattern of a gate, with regard to the contrivance of the braces and iron strap for upholding the rail; and since this plan of constructing a gate is become so deservedly approved of, it may be proper for me to add, that I received it from Mr. John Baddely of Brighton, near Wolverhampton.



sooner than the latch. This latch weighs about 2 lbs., and is worth 7½ d. exclusive of the sheet iron escutcheons.

If it were wished to make a larger gate of this pattern; let the above column of lengths be altered accordingly; but the column of greatest thickness, and that of the sizes to which the parts are to be tapered, may remain as they are: supposing the gate is to be 9½ or 10 feet long, instead of 9 feet, then add about half of what the length of the gate is increased to the lengths of the head and heel, with as much as is wanting to the braces, and the gate will be in a good form, the rails and bars being of course cut out to the new length.

All road gates and gate-posts should be painted white, otherwise they will be frequently broken in dark nights by horses and carriages being run against them.

It appears by calculation, that the contents of solid timber in the gate, FIG. XVIII, and the quantity of sawing (which is the superficies of its parts measured separately,) are exactly

Solid contents.		Sawing.	
Feet.	In.	Feet.	In.
2	5½	31	11½

Allowance must be made for waste of timber by every cut of the saw, which is equal to the quantity of saw dust; and the measure of sawyer's work in a gate depends a great deal upon the size of the timber, and how far the slabs and other pieces which are unfit for gates may be convertible to different purposes*.

When the hinges of gates are more or less than 40 inches asunder, the new position of the hooks may be found by the following TABLE

Distance of the two hinges or pivots of a gate's suspension.	Horizontal distance of two perpendicular lines, one falling from the centre of each of the hooks.	Distance of each of the two hinges or pivots of a gate's suspension.	Horizontal distance of two perpendicular lines, one falling from the centre of each of the hooks.	Distance of the two hinges or pivots of a gate's suspension.	Horizontal distance of two perpendicular lines, one falling from the centre of each of the hooks.
11	24*	38	51	11	24*
12	25	39	52	12	25
13	26		53	13	26
	27		54		27
14	28	40*	55	14	28
15	29	41	56*	15	29
16*	30	42	57	16*	30
17	31	43	58	17	31
18	32	44	59	18	32
19	33	45	60	19	33
20	34	46	61	20	34
21	35	47	62	21	35
22	36	48	63	22	36
23	37	49	64*	23	37
		50			

* Those numbers denoting the distance of the hinge which are marked with an asterisk, are precisely

* In making accurate calculations, it is as well to give the precise amount as to omit the fractions, but to measure the bulk and superficies of the parts of this gate, tapered as they are, is rather tedious and troublesome; I trust and believe, however, that I have drawn correct conclusions, and since many gentlemen are apt to neglect their gates as well as other repairs and improvements, for want of properly understanding the nature and extent of the work required, I hope that, in the attempt to remove such obstacles, as to this subject, I shall not be thought to have misapplied either my own time, or trespassed unnecessarily upon that of my readers.

proportioned to the horizontal distance of the lines falling from the hooks, for as 40 : 1½ :: 32 : 1, &c. and the intermediate numbers are nearly enough calculated, but as 40 : 1½ :: 41 : 1, and a further fraction, 42 to a still greater sum, but not amounting to 1-12 inch difference till the distance of the hinges becomes 43 inches: and the same will apply to other parts of the table.

The accuracy of these calculations may be tried in various ways: suppose a gate to be 110 inches long, and that it is intended to rise at the head 6-7-8 inches, in its semicircular course from the line of rest to the line of equilibrium; then as the length of the gate is to the distance between the two hinges, so will be 6-7-8 inches to double the horizontal distance of two perpendicular lines, one falling from each of the hooks.

Take any other distance of the hinges from each other, and the required extra length of the lower thimble may be found, by placing the numbers 110 and 6-7-8 as the first and second terms of a rule of three proportion, and the new distance of the hinges must be the third term; the answer divided by two will be the sought for horizontal distance of the two perpendicular lines falling from the hooks: and as the extra length of the lower thimble should always be the same as the horizontal distance of the perpendicular lines falling from the hooks [adding the loss in hanging the gate] the answer for the one is the measure for the other.

For the American Farmer.

Agricultural Chemistry.

No. I.

The great Linnæus has almost given animal life to vegetables, by his wonderful system of classification, and the eccentric Darwin, would fain give them passions like human nature; but it has been reserved for modern Chemistry to discover, that vegetables possess a most refined taste, a wonderful discrimination in the selection, and the most active chemical powers in the preparation of their food. It is in vain to search for any single article as the "food of plants"—their tastes are as various as the taste of man—they invariably seek for those things which they like best, and if they cannot find them, they will take what they can get. Indian Corn in the vegetable kingdom, is like swine in the animal; it feeds indiscriminately and voraciously on all the food it can procure, and its growth and product is in proportion—while the more delicate mint is satisfied with water alone, from which it extracts its small portion of food. The seed of a vegetable may be considered the magazine or granary in which is contained the germ of the future plant, and a requisite supply of food to support it. In establishing itself in the earth, the germ in many comparatively large seeds, is so small, as to escape the power of the naked eye.—What then is the vision of man, when compared with that power which creates in an invisible seed, an embryo plant, perfect in all its parts, perhaps an hundred times smaller than the seed itself? The grain preserves and defends the germ from injury until placed in its proper sphere of action. The earth then furnishes food to it, by its power of absorption, which it naturally exacts as soon as it comes in contact with moisture. When it has taken in a sufficient quantity of water, the germ commences its operations by decomposing a part and appropriating to itself the oxygen, it gains strength and bursts its cell—it now finds itself in the presence of earth and air.* It puts forth its fibrous roots in quest of more substantial food among the mineral and saline solutions in the

* It is usual to consider the presence of the air as above the earth, but tillage extends it beneath the surface from 1 to 12 inches; hence the difference in the fertility of the same earth, cultivated and uncultivated; the presence of the atmosphere being requisite for vegetation as soon as the germ bursts the seed.

earth, and separates, with unerring fidelity, those which are required for the formation of the plant: in the mean time its head rises towards the heavens, and bursts the surface of the earth; the voluntary expansion of its leaves seems to offer praise to its creator; the sun stamps upon it his brilliant colours, and gives the flower its beauty; by his heat, the plant prepares its oils, gums and balsams; and in return, gives to the light its oxygen (which, for ought we know, may be the support of the sun.) The winds agitate the plant, and often threaten to carry away the beautiful superstructure; while its motions indicate to the root below, that it is in danger. The elder roots grasp with firmer strength the earth and send forth an increased number of fibres, which collect materials and increase the growth of the plant. These operations go on until the fruit is produced, when the plant resigns itself to indolence, and delivers to the hand of man the result of its labours. Some are permitted to resume their action after delivering to the earth their fruit and leaves; but the greater number sink and furnish substance for the growth of future plants: this is the unvaried round of matter, it lives, and dies, to fill some other life.

A. B. M.

Extracts from a Compendious Dictionary of the Veterinary Art.

[Continued from No. 22—p. 174.]

ÆGYPTIACUM. The following is the method of making this liniment, so much used by farriers as a detergent in foul ulcers. Take five ounces of powdered verdigris—one pound of honey, and seven ounces of vinegar—boil all together, until it is of a deep red colour and as thick as honey.

AGE. A horse's age may be known by the front teeth of the lower jaw until he is in his eighth year, after that some judgment may be formed of his age by the front teeth of the upper jaw until he is about twelve or thirteen. These latter marks, however, are not to be depended upon like the former; but if, at the same time, the horse's countenance be considered, with some other marks we shall point out, an experienced person will be seldom led astray by them. When a colt is foaled, he has no teeth in the front of his mouth, but in a few days two above and two below make their appearance, and soon after them four others; after this, it is generally three or four months before the corner teeth, as they are termed, appear. These twelve teeth in the front of the mouth, are small and white, and continue without alteration until the colt is about two years and a half old, when he begins to shed his teeth. The two front teeth, above and below, being the first that made their appearance, are the first that fall out;—the new or permanent teeth, distinguished also by the name of horse's teeth, are considerably stronger and larger than the foal or colt's teeth. Between the third and fourth years, the two teeth next them, above and below, fall out, and are replaced in like manner: and between the fourth and fifth, the next or corner teeth are changed. The horse is now said to have a full mouth of permanent teeth. During the fourth year, the tusks or tusches appear; though sometimes, but rarely, they appear before the fourth year. The four front teeth arrive at their full size in two or three weeks, but the corner teeth do not grow so quickly, being at first but just above the gums, and filled with flesh on the inside. At five, this fleshy appearance is lost, but these teeth continue for some time much less than the others, and they seldom lose their shell-like appearance until five and a half, when they have a cavity of a dark colour on their upper surface, like the other teeth. At six years, the dark coloured cavity is much diminished, appearing something like the eye of a bean, that has advanced in length; still the mark or cavity is very conspicuous. At seven, the corner teeth have become a little longer, and the mark smaller. At eight

the mark is lost. After this period, you judge of the age by the marks or cavities in the upper teeth.—About ten, the two front teeth have lost their marks, the two next have but little left, but in the corner teeth they are readily seen; but these gradually wear out, and during the twelfth year are totally erased. The tushes, like the teeth, are gradually changing their form: at first they are small, sharp and shell-like, having a remarkable concavity on their inner surface, but gradually become larger and longer:—the concavities on their inside also lessen: about eight they are nearly lost. At about twelve, sometimes earlier, the inside of the tush begins to approach towards a round form, and after that gradually becomes quite round, blunt at the top, and of a yellow colour. About the age of fourteen or fifteen white hairs often appear above the eyes, and gray horses become lighter in colour, and when very old they become white. The teeth of horses as they advance in years, become longer and more oblique in their position, they acquire also a yellowish colour. The figures I have annexed to this article may be found a useful remembrancer by those who wish to learn the method of discovering the horse's age by the mouth; that is, it may enable them to recollect the progressive changes which the teeth undergo; nothing, however, can make them familiar with the subject, but an attentive and frequent examination of the horse's mouth. Horse-dealers are said to practise numerous artifices in order to deceive the inexperienced with respect to a horse's age. One of them consists in pulling out the corner teeth of a four year old to make him appear five; for when the corner teeth are thus removed before their time, they are soon succeeded by horse's teeth: this artifice is often practised. Another trick is termed *bishoping*: that is, making artificial marks in the corner teeth when the natural marks are worn out. The first artifice may be detected by the want of tushes; the second by the want of resemblance between the natural and artificial mark, the state of the tushes, and general appearance of the teeth; in horses past twelve, the marks in the upper teeth also may assist in its detection. When a horse becomes gray over the eyes through age, some fine powder of a suitable colour may be readily procured to conceal it. When the pits over the eyes are remarkably sunk and hollow, it is said that a small incision is made in the skin, and the smallest tobacco-pipe stem, or quill, introduced, and the membrane underneath inflated, so that the hollow parts are filled up with air; but this, I believe, is seldom if ever practised; and as to filing down the teeth, it is impracticable.

[To be continued.]

THE FARMER.

BALTIMORE, FRIDAY, SEPTEMBER 3. 1819

Early Corn and Talavera Wheat.

We have been kindly promised a small quantity of early *Canada Corn*, which it is said will ripen six weeks sooner than any other—also some *Talavera Wheat*, in the straw. In the disposal (which is always gratuitous) of these and other rare seeds or grain, we shall give the preference to applications from *Agricultural Societies*, not only because it will be likely to insure the widest, most equitable and judicious distribution, but because we are desirous to evince, in our humble way, a sense of the great advantages resulting to the country from the establishment of these patriotic associations.

We have had several applications for *Guinea Grass Seed*, which we should be very happy to gratify, but we have not been able to procure any. The plants sent us from a friend in the District of Columbia, are growing finely; but we apprehend it will not succeed in a climate so far North as this. The frost will probably overtake it. We hope ample experiments will be made.

Worthy of Notice.

Irish and Sweet Potatoes have been selling in this market for some weeks past, and do still, at the rate of *two dollars per bushel*. Tomatoes, at 10 cents per dozen—Peaches, at 37 1/2 to 50 cents per peck—Cabbages, large, 10 to 12 1/2 cents per head. At the same time, there are thousands upon thousands of acres of uncultivated land in all directions, more especially south and west, within a few miles of the town, which might be bought for from 10 to 20 dollars per acre, and each acre if well prepared, and judiciously planted and cultivated, would produce as many of any one of the above articles as would yield several hundred dollars!

TO THE EDITOR,

dated—*Albright, N. C. August 18, 1819.*

We are uncommonly dry in this section; most of our corn fields are irretrievably lost—some chance fields are middling. Wheat crops were never better, nor safer housed. Garden vegetables that receive their support from the earth are lost. We have just sown our turnips, and fear they will fail. Fruit in abundance, and very fine. The streams here were never known to be lower by the oldest person living amongst us—Thermometer higher than usual at this season. Money uncommonly scarce, and produce low—a monstrous disease in the neighbourhood of Banks, without an anticipated remedy—and it is greatly feared, that the disease has progressed so far into the vaults of the banks, that their death will be certain. Agriculture an agreeable topic generally.

I hope the above evils will lead to great objects—the improvement of the soil. I hope to be able, in a few years, to convince some of my old friends, that it would be better for them, to abandon a profession (as I have done) and live by the bountiful products of a farm.

POETRY.

West River, August 25, 1819.

Dear Sir,—The enclosed song, written by a gentleman distinguished for his practical knowledge of Agriculture, as well as talent for Poetry, seems particularly suitable for insertion in your valuable paper, for which purpose it is transmitted, by

A SUBSCRIBER.

To John S. Skinner, Esq.

THE LEAF OF TOBACCO.

Tune—*Sprig of Shelalah, &c.*

LET the Irishmen boast, they're the lads for the ladies,
That fighting and loving their own native trade is—
While the Shamrock so green shades the bosoms so bold;
But the Shamrock, when gather'd, will quickly decay,

'Tis honor'd one moment, the next thrown away:
Now the plant on Patuxent, we rear as our boast,
When the most it is faded, we honour it most—
'Tis the leaf of Tobacco, as yellow as gold!

We have heard, tho' to us it appears rather silly,
The knights of Navarre, for the sake of a lilly,
Would rush on to death, or to victory of old:
No doubt, but they thought, that this beautiful flower
O'er the hearts of the damsels had wonderful power;
But the knights of Patuxent need never to sigh,
If they can but hold up, to a fair one's bright eye
The leaf of Tobacco, as yellow as gold.

The Thistle of Scotland has oft taught her foemen,
That it can be well roughly handled by no men,
Without their soon wishing they ne'er had taken hold;

Thus may all, who would wish our lov'd plant to decay,

Whether meaning to smoke it, to eat it, or buy,
Soon find it too high for their fingers to bear,
And that they'll have the profit alone, who shall rear
The leaf of Tobacco, as yellow as gold.

WHOOPIING COUGH.

As Whooping Cough prevails among children, and has in several instances proved mortal, it is important to be generally known, that, after the disease is fully ascertained, inoculation for Cow Pox will certainly arrest it. The attention of parents is invited particularly to the consideration of this fact; because, in addition to the danger from Whooping Cough, especially in young children, it has been accompanied, in some of the cases which have already been fatal, with distressing bowel complaints, which are usually prevalent at this season of the year. It is an absurd opinion, that Whooping Cough must be left to have its course, but in consequence of this opinion it may happen, that a physician will not be consulted until it is too late to have recourse to inoculation with any prospect of success. If proof be necessary to convince the incredulous, the reported cases of some of the best physicians in the country afford abundant evidence of the utility of the practice. They advise to inoculate as early as the second or third week from the commencement of the Cough, and in extreme cases, earlier.

Hamp. Gaz.

AERIAL COMBAT.

A few days ago, says a late London paper, a mason and a labourer, both men of prowess, quarrelled on the scaffolding of a spire now erecting on the tower of the new church. A pugilistic encounter took place, and the two fearless combatants fought near the very summit of the unfinished building, where it was not quite a yard in diameter. The scaffolding and railing which encircled it, include a space of about 80 inches in diameter; and here the champions buffeted each other lustily at the height of 176 feet above the surface of the ground. Some knock down blows were given and received, but fortunately neither of the warriors were thrown out of the ring, or, as the technical phrase is, over the ropes. It is indeed to be feared, that if they had been precipitated to mother earth, she would not have received them so kindly as she did her favourite son Antaeus. We do not think a quarrel of this nature was ever before decided by fist-cuffs, in a similar situation, unless, perhaps, at the memorable dispute betwixt the brick-layers, masons, &c. who were engaged in the building of Babel. It is said, that the victor means to challenge Crib, Carter, and every other British bruiser who may take up his gauntlet, to fight him on the top of the monument of London, where he will give him such a cross buttock, as will send him headlong to the street. The only men in modern times, who have equalled these genuine successors of Hercules, Eryx, and Entellus, were Massena and Suwarrow, who fought in the Swiss mountains, three-fourths of a mile above the clouds, and saw the lightning break, and heard the thunder roll, full many a fathom below the scene of action.

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FOR JOHN S. SKINNER, EDITOR.

At the south-west corner of Market and South streets

BALTIMORE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolus." . . . Virg.

VOL. I.

BALTIMORE, FRIDAY, September 10, 1849.

NUM. 24.

AGRICULTURE.

Address from Athanasius Fenwick, Esq. to the AGRICULTURAL SOCIETY of St. Mary's County, (Md.) communicated by E. J. MILLARD, for insertion, by order of said society, in the *American Farmer*.

WE have reason to congratulate each other on the excellent dispositions which have produced this assemblage. It is evident from its respectability, that our community feels deeply the spirit of improvement; the laudable desire of amending our condition, by availing ourselves of the knowledge which is diffusing itself in neighbouring districts and states. No reflection can be more delightful to the moralist and patriot, than that which arises in the mind of him who perceives that now that it has pleased Providence to give peace to the civilized world, that every virtuous and intelligent man, grateful for the blessing, seems at length heartily disposed to devote all his talents and his labours to the objects most worthy of them, the promotion of the arts and sciences, thereby to better the habits of men, and increase the productions of labour.

Agriculture, the most ancient of all the sciences, and the most necessary to supply the wants of man, yet so little understood, because the most difficult of all others, is the branch which it has fallen to our lot in life to pursue, practically. On the extent of our acquirements in this branch of knowledge depends nearly all our income, all our comforts, all our means of doing good; of course our independence and respectability. The strength, power and happiness of the nation to which we belong, are also derived from this vast source of wealth. Every inducement therefore, which can operate upon us in our individual capacity, or as heads of families, or as members of society, invite us to increase and diffuse our share of that kind of knowledge which is the chief business of our life. Knowledge, says the great Lord Bacon, is power, and whoever possesses a great share of knowledge, is insensibly impelled to active exertion, to constant application to business, to great industry, and thereby his wealth, utility and respectability cannot fail to increase.—What is it that engenders slothful habits of lounging, that causes so many tedious hours to be spent in idle chat, in listless torpor and insipid amusements; that causes those nurseries of laziness, extravagance, gaming, and intemperance, to be the most frequent resort of our people? Why, habits produced by ignorance: The want of knowing how to produce ten fold more comforts by staying at home and how to carry on the business and improvement of their farms, with a degree of profit, credit and respectability which would even satisfy a man of naturally bad propensities, and

win him by his interest from the scenes of coarse degrading and expensive indulgence.

If such then, is the influence of agricultural knowledge upon ourselves, and upon the mass of every population, how important is it, to increase and diffuse the little stock we possess.—Then disregarding the trifling inconvenience and fatigue, we may incur, as members of an agricultural society, let us unite our efforts in the admirable task, of endeavouring to produce industry, plenty, virtue and health, within the sphere of our acquaintance, and to banish as far as we can, ignorance and indolence, the fruitful mothers of vice and poverty.

Can any reward in this world, be greater for such labours, than the certain consequence of an increase of sound knowledge in the business of our lives; that is, in the first place, bettering our own health and fortunes, and at the same time improving the condition of every human being, and not only them, but of every domestic animal around us? There is something so cheering and animating in the prospect of doing so much good, that I think it cannot fail to rouse us, to lay the foundation of an establishment, for the regular, constant and durable acquisition of agricultural knowledge: and the way to make every member feel an interest in the society, is, by making him feel his utility in consequence of his services.—Let a task therefore, of some useful kind, be imposed on each member, and to do this profitably, the concerns of the society, must embrace all our domestic and local concerns. It is useful to know the condition of every farm; its dimensions, its divisions, its arable and waste land, its produce in grain, in tobacco, in grass; its sources of manure of all kinds, the number and kind of stock, team carts, ploughs and labourers.—Let each member, furnish quarterly, statements of his own and adjoining farms, and if shame is felt in exposing our bad management, it is better to endure that pain, than the secret consequences of continuing in a miserable condition. It is certainly time that remedies should be applied to our modes of management, and all salutary remedies gives a little pain. The society will be found useful, also, in discovering and encouraging every useful man, whether he is a mechanic or a cultivator of land. This may benefit the members of society as well as the community. Committees to visit and report the condition and modes adopted by the best farmers among us, who do not belong to the society, will be another means of employing our members, and producing a general spirit of emulation. The intercourse of the society, may also facilitate the sale of males and females of the best breeds of cattle, horses and hogs, if the names of the owners are regularly reported. These are some of the personal advantages which may be derived from an association of this kind, as well as the general improvement of our cultivation.

Let us examine, what it is that gentlemen con-

template for themselves, when they determine to settle on or cultivate a country seat or farm.—Have they nothing in view but health, a calm retreat, amid rural shades and sylvan beauties? Then let the embellishment of their grounds and horticulture occupy their attention, and thereby, let them diffuse taste and useful elegance, to supply the place of comfortless waste and idle profusion. Do their pecuniary disbursements call for speedy supplies, then their objects should be to select the crops that produce most in market, and to draw the greatest product from the soil, in the condition in which they find it, of which it is capable of being made to yield, with the force of team and hands, which their means will enable them to keep, without entirely destroying future prospects of crops from their land. For these, the system of cultivation recommended by Arator, for corn and wheat, and the modes pursued by the most industrious and intelligent planters of tobacco, appear to me, the best that have ever yet been realized. Let this class of men also, keep no more expensive animals, than are profitably employed, and fatten only that kind of stock, which can be kept cheapest, and sells dearest and most readily. On the other hand, if their pecuniary circumstances, do not call for large or immediate supplies, it appears to me, that this severe mode of cultivation, is not ultimately so profitable, particularly to persons who occupy lands a good deal exhausted, as that system, the object of which, is not to obtain the greatest amount of disposable cash, but merely to produce enough to supply the frugal wants of their families and servants, and to maintain the working animals and utensils in good condition. While the labour, which can be spared by thus making crops, which require less time in the cultivation, is diligently and judiciously employed in manuring, draining, and every other way of improving, that can be devised. The land of the farmer is his capital, and say it yields only five bushels of wheat on an average, throughout the farm, to the acre, and wheat yields one dollar a bushel, and the expense of making the wheat, is one third, that is, 33 1-3 cents, in the bushel; the profit per acre, is then \$3,33 1-3, and on a hundred acres of this kind, in cultivation, \$333,33 1-3; and we will say, such land can be bought or sold for 10 dollars an acre.

The question then, for our consideration, who are (at least some of us, and many throughout the county) possessors of this kind of soil, is, how to increase our capital, or our means of obtaining income; that is, how to make the greatest profit on this kind of land, or on the amount of it we hold. One hundred acres of it, now yields \$333,33 1-3 clear of expense of cultivation, and will sell for only one thousand dollars. Increase the expense of cultivation, by reducing the proceeds to \$233,33 1-3, that is, apply one hundred dollars worth of the time and labour expended by your hands and team, in cultivating the above

crop, to manuring, ploughing and draining, and I think that a hundred dollars worth of time and labour, not money, thus applied, will give a greater profit than we could possibly obtain, by applying the same value of time and labour to making corn, wheat or tobacco. From an experiment that was made in my neighbourhood, it was ascertained with tolerable accuracy, that a two ox cart load of earth, leaves and trash, scraped from the woods, mixed with about one third part scrapings from a cow yard, gave an increase of one peck of wheat to the cart load; this at one dollar the bushel for wheat, makes the cart load worth 25 cents; and I have proved, as I will take another opportunity of showing, that a cart and two hands, can at short distances, say three hundred yards, make twenty-one loads per day; making the profit of the labour of an ox cart and two hands equal to \$5,25 per day, and for 300 days, or one year of working days, \$1625. Now if the 100 acres, giving annually \$333,333 profit, will sell and is worth at the market price, \$1000, can be made to give \$1625 per annum, it would sell taking the rate of annual profit, for the rate of value, at nearly \$5000.

The income that can be made from a tract of land, ought surely to govern the price, and will always do it in an industrious and thriving agricultural section of country. Though that is not the case altogether in this county, and for the sole reason, that we are not as industrious and thriving as our abilities and the capability and original fertility of the soil will admit.

This therefore, appears to me a view of the application of time and labour, more advantageous and profitable to holders of impoverished land, than any system, however excellent, of applying labour to the cultivation of the most profitable crops. In a system of farming, both modes of applying labour, are all important, but the labour applied to manuring, ploughing and improving, gives in the truly rapid increase it makes in the value of the land, greater increase, or funds, or productive capital, than any amount of dollars that could be made by the best possible application of labour, to tilling and working plants of any kind in its present condition. When land is thus made rich, we all know that the labour of working it is reduced very considerably. The most rapid fortune I ever knew to be made, on land that was poor when it was bought, was by a man named George Castor, he was a labouring man, who had amassed money enough to purchase 50 or 60 acres of land, and to retain in hand over and above the purchase, 4000 dollars. He moved his family on this land, and for two years diligently devoted his whole time to manuring and improving, and expended all his surplus 4000 dollars, in this way, and not till the third year after he had moved on the land, did he attempt to make a crop. When his land was thus made capable of producing, and worth the labour of cultivation, he commenced making crops, and succeeded to make money fast and to become wealthy.

Farmers, who have not like him, surplus money to begin with, and to maintain their families while putting it in a condition fit for cultivation, may, many of them at least, spare some time and labour from the crop necessary to the maintenance of their families; and it appears to me, that no business of profit, that ever was pursued

by men, is so profitable as labour, applied to manuring. If commerce, which yields 10 or 12 per cent. per annum, on capital, can afford to pay 6 per cent. to banks for the loan of money, manuring, which certainly yields at least 2 or 300 per cent. per annum, where we have not to buy the manure, and at least 50 per cent. where we have to pay for it, may also afford it. It is because it is too easy for a farmer to live somehow and keep free from debt, that farmers have been long in the habit of not calculating the best modes of applying time and labour. What other business or trade, mercantile or mechanical, pursued so carelessly and with so little correct calculation as farming is every where carried on, would fail to make men bankrupts, and utterly ruin them. Merchants are every day becoming bankrupt, with all the keenness and attention which they give to their business, while farmers, hardly, ever fail totally, in the worst of times, with infinitely less attention to their interests. Does not this show, what are the resources of land? The management of land, is yet certainly not well understood; but it appears to me, that money judiciously applied to land and cultivation, may be made to yield a greater profit, than in any other way of employing it, usual among men, particularly where land is as cheap as it is among us. We can buy it from 10 to 30 dollars per acre, and such will yield from 5 to 15 bushels per acre, and deducting 1-3 for the expense of cultivation, it yields from 3 1-3 to 10 dollars per acre, when cultivated. To the 10 dollar land, apply 25 dollars worth of labour and manure, to each acre. At the very cheap rates that manure and labour can be obtained here, say for a man 60 dollars per annum, and 20 dollars for a woman or boy, that is one sixth of a man's yearly labour, or two months labour, on one acre of one man. In two months, one man could cover an acre with manure, with no other implements than a spade, and a wheel-barrow; I choose this most difficult and expensive mode, for the sake of example. A cover, one inch thick of manure, would at this rate, cost 10 dollars hire, and 10 more for maintenance, making for the spade, wheel-barrow and all, 25 dollars. This cover of one inch thick, would make this 10 dollar land, yield the next year at least 25 bushels of wheat, or 1000 wt. of tobacco, that is, in wheat 25 dollars, in tobacco, 80 dollars; deduct the third for cultivation, gives profit 17 dollars 2-3 for wheat, or 53 1-3 profit in tobacco. With this tedious mode of improving it, this land would now only cost 35 dollars the acre, and in one year after paying for the land, the owner would have a surplus of 18 1-3 dollars, that is, more than 150 per cent. profit in income, and 250 per cent. profit in the increased value of the land, in all 400 per cent. I am not, you all must perceive, when you reflect, speaking of impossibilities, but of what you know can be done, and I have stated the mode of manuring in the most difficult and expensive way, and not in the usual way with carts, and yet the profit of manuring, is such as you see it. To apply manure in the cheapest mode, that many of us have it in our power to do, it is profitable, (if there is any truth in arithmetic,) in a degree that infinitely surpasses any other useful occupation. Therefore, gentlemen, it is self evident to me, that there is no more profitable business followed by

men, than farming is, if industriously and judiciously followed. It remains only for us to gather the best experience, and to make the best use of it to improve rapidly our condition and consideration in the eyes of the world.

FROM THE ALBANY ARGUS.

Treatise on Agriculture.

SECTION VI.

Of Manures—their management and application.

The principal of fertility, (the result of animal and vegetable decomposition,) is, as we have seen, susceptible of solution, and in this form becomes the aliment of that artificial vegetation, which is the work of man, and which leaves so little on the earth, to compensate for the great deal it takes from it. In a course of years, therefore, there will be an actual loss or subtraction of matter, useful or necessary to the growth of plants, which can only be re-established by manures of vegetable or animal origin. The most approved methods of preserving and applying these must therefore be among the objects most important to the agriculturist; and that the reader may better understand the reasons of the practice we mean to recommend, we begin the discussion with Kirwan's analysis of stable manures.*

	Charcoal,	Lime.	Clay	Sand,	Fixed Salts.	Carburated hyd.	Carb. acid & water.
105 lbs. of							
Cow Dung,	3.75	1.20	0.15	2.4	0.6	92.30	
Horse Dung,	10.2	1.50	0.50	3.0	0.21	89.77	
Sheep Dung,	25.0	0.10	28.29	0.29	0.72	68.00	

The elementary parts of this manure, as exhibited in this table, sufficiently indicate the mode of preserving them. When dropped in the field and in small parcels, by cattle, they exhibit no signs of fermentation, nor undergo, in that state, any degree of chemical decomposition; but when brought together and frequently wetted and subjected to the action of atmospheric air, they are speedily dissolved and give out much gaseous matter. To prevent the escape of these soluble and volatile parts, two things are necessary: 1st, that the dung be collected in a reservoir, of convenient size, walled and paved with stones: and 2d, that a layer of sand, or earth, be occasionally spread over the surface of the dung. The former will prevent filtration, and the latter retain the gaseous matter, so useful in vegetation, and at the same time augment the quantity

* Tull and Du Hamel's doctrine, that frequent ploughings and sowings superseded the necessity of manure, is no longer held by any well instructed agriculturist. The maxim of Oliver de Serris is much better founded. "Le bien labourer, le bien fumer, est tout le secret de l'agriculture." Till well and manure well is the whole secret of agriculture.

of manure. To prevent an excess of moisture, which always retards, and sometimes obstructs decomposition altogether, the reservoir should be covered.

The application of manures, is a subject of more difficulty, and has given occasion to some disputation. The controverted points are :

1st. Whether short, or long dung, or in other words, whether dung thoroughly rotted, or that which has but began to rot, is most advantageous?

2d. Whether dung used superficially, or ploughed deep into the ground, is most profitable?

3d. Whether extraneous matters admitted into the stercorary, are useful or otherwise?

4th. Whether stable manures are best applied directly or indirectly to wheat crops?

5th. At what time manures are best applied?

6th. In what quantity?

We shall discuss these points, separately and briefly—and.

1st. Which is to be preferred, long or short dung?

The discordance in practice, as well as in opinion, prevailing on this question, induced some scientific men to institute a series of experiments : having for object a full and regular solution of it. With this view, parcels of dung (long and short) were taken from the same stables, on the same day, and applied to crops of the same kind, growing on the same fields. The result was perfectly conformed to theory and similar in all the experiments. Those parts of the field, to which the short dung was applied, gave the best crops the first year, but those on which the long dung had been laid, gave the best crops the second and third years ; a fact which authorizes the conclusion, that if we wish to obtain one great crop, the rotted dung is best ; but when we look to more permanent improvement, the long dung is to be preferred.

2d. Which is the better practice, to spread manure on the surface, or lay it deeply under the ground?

In favour of the former practice, it has been contended that the distribution of the dung, could more equally be made on the surface, with a spade than under ground, with a plough ;* and for the latter, that all tap-rooted plants, entering far into the earth, required it to be laid deep, and that those of fibrous roots, would be sufficiently benefited by its exhalations. Both modes, however, are obviously bad. We have seen, in the preceding article, that dung to become the aliment of plants, must undergo a decomposition, and that to the production of this, the combined action of air and water is indispensable. But if the manure be buried deeply, this action cannot reach it, and the dung remains a caput mortuum. On the other hand, if spread superficially, the rains dissolve and carry away many of its juices, while the sun and wind eva-

* The English (are said) to have a machine attached to the drill, that goes before and distributes the manure at the necessary depth. In planting potatoes, we make a bed of dung for the plant. Why not apply the same reasoning and the same practice to all seeding of the ground?

porate the rest. These considerations lead to the true rule, on this head, which is, to lay it three or four inches below the surface of the soil. At this depth, (if short dung) its action will be most vigorous in all directions, and if long dung, a greater depth will, as already suggested, completely destroy all action.

3d. Are extraneous matters, as horos, hoofs, bones, shells, feathers, leaves, weeds, &c. &c. to be admitted into the dung heap?

There is perhaps nothing in either theory or practice, so obviously right, that may not be disputed. The objection made to these matters, in mass, is, that they do not decompose equally, and that those ingredients of the heap, which are slowest in decomposition, retard others, which, if left to themselves, would, in this process, be more forward. This objection is without weight ; for we have seen, that long, or unrotted manure, though its effect be less prompt, is, upon the whole, more favourable to culture, than that which is rotted. The difference of time in decomposition, is therefore no evil, and the augmentation of the mass, is a great good ; beside that some of these offals are the most powerful manures. Horns and hoofs are compounded of albumen and gelatine ; bones, of the phosphate and carbonate of lime and gelatine ; shells, of carbonate of lime and animal matter, and feathers and hair of albumen oil, &c. &c. Applied to the roots, they forward the growth of fruit trees more than any other species of manure.

4th. Whether the stable manures are best applied, directly or indirectly, to wheat crops?

The practice, on this head is different in different places. In France, as in all other countries, where fallows are in use, the dung is applied directly to the wheat crop ; while in England, where the rotation system is established, it is applied to the summer crop, which immediately precedes that of the wheat.

The objection to the French practice is, that the weeds brought into the field by manure, start with the grain, and do as much harm as the dung does good. Nor is there any sufficient answer, that I know of, to this objection. The English practice is, therefore, much to be preferred ; because, besides the advantage of exchanging a fallow, for a summer crop, it permits you, while that crop is growing, to destroy the weeds that otherwise would have infested your fields.

5th. At what time of the year are manures best applied?

The most approved rule, on this head, is to apply the winter dung wholly to potatoes, flax and corn ; that of the spring, to cabbages and beans, and what may be afterward collected, to turnips ; and,

6th. In what quantity ought we to apply them?

The quantum of manure applied to the acre, must necessarily depend upon the staple of the soil. If entirely exhausted of vegetable mould, a great deal will not be too much ; but there is a possibility of erring, in this respect, even with regard to poor soils. Where an excess of manure exists, the crop (whatever it be) runs into stock and leaf, and the effect on the flavour of the vegetable, is bad ; a fact, which the experience of all who have tasted the cabbages and turnips raised in the *faudrette* of Paris and Lon-

don, can abundantly establish. Even meadows (which are least liable to injury in this way) may be too much dunged. What cultivator of observation, has not seen his cattle turn with disgust from herbage, the most luxuriant in appearance, but growing out of masses of manure? This circumstance suggests the advantage of going over our meadows in the fall and break up and distributing such lumps of dung as may be found in them.

Extracts from a Compendious Dictionary of the Veterinary Art.

(Continued from No. 23—p. 183.)

Age of Cattle. The age of neat cattle is known by their horns. Till the third year of their age is sufficiently indicated by their general appearance, they then change their horns for a permanent pair ; these have a kind of button or circular protuberance of horn at the end next the head ; the following year the button is impelled forward by the new shoot of horn, which has a button next the head like the former. The same process takes place annually during the animal's life. These protuberances take the form of a ring round the horn, which is easily distinguished, and by which the age is known ; counting three years for the point of the horn, and one for each ring.

Age of Sheep, is known by their teeth. In their second year they have two broad teeth before ; in their third year they have four ; in the fourth, six ; and in the fifth, eight. After this period the age cannot be accurately known by the teeth. The age is indicated also by their horns, which are not changed as in the cow, but have an additional ring every year ; only one year is to be counted for the point of the horn. The age of the goat is known in the same way, and that of deer by an additional branch appearing every year in the palm of their antlers, or horns.

Anbury, or Ambury. A soft spongy tumour, sometimes met with in horses and cows. They are of various sizes, sometimes less than a mulberry, which they often resemble in colour ; at others, as large as an apple of the middle size. They generally appear about the nose, but are found sometimes in other parts of the body. When wounded they bleed freely ; therefore farriers generally attempt the cure by some escharotic application. The following has often proved successful :

Powdered alum, two ounces.

Water, one pint.

Sulphuric acid, one dram—Mix.

When they are small and numerous, or if they have a wide base, this application may be safely used, particularly when professional assistance cannot be procured. If the tumour should be attached to the body by a slender neck, it may be cut off with perfect safety ; and if there should be occasion to stop their bleeding artificially, a circumstance I have never known, the red-hot iron may be applied for this purpose. After the anbury has been removed, the part should be touched with lunar caustic for three or four days, to prevent the tumour from growing again.

Antidote. Medicines that prevent or remove the affects of poison ; when a horse has been ma-

liciously poisoned by arsenic, or corrosive sublimate, a solution of soap in some mucilaginous fluid, such as infusion of linseed, should be given freely; oil and salt of tartar have been recommended also, and the liver of sulphur (sulphuret of potash.) The poison generally employed to destroy dogs is nux vomica; when a dog has been seen to swallow this poison, an emetic given soon after will effectually prevent any ill consequence. I have known it succeed even after the convulsions, which nux vomica occasions, had commenced. Emetic tartar, turpeth mineral, or salt, are more certain in their effect than other preparations, and should be given in rather larger doses than are usually employed.

Antimony. A medicine much used in farriery; it is variously prepared, and though some of the preparations formerly employed are now thought by many veterinary practitioners unnecessary, and I am inclined to believe they are so, the following account of them may not be uninteresting:

Antimony or Sulphuret of Antimony. A black shining mineral, composed of sulphur and a peculiar metal, which by a chemical process, may be separated from it. When finely powdered or levigated it is considered a good alterative medicine, and is commonly employed in the diseases named Surfeit and Hidebound. It is often given merely with a view to improve the horse's appearance, that is, to give him a fine glossy coat; it is generally recommended also for those diseases of the skin which cause a horse to rub himself against the stall, &c. Sulphuret of antimony is certainly an innocent medicine in the horse, but its efficacy has been doubted on account of its apparent inertness. The common dose is about an ounce; it may be given, however, in larger doses with safety. See *Rees' Cyclopaedia* art. *Antimony*.

Precipitated Sulphur of Antimony, or Golden Sulphur of Antimony. This preparation has been found useful in obstinate diseases of the skin when joined with a small proportion of calomel. The dose from one to two drams, with about a scruple of calomel.

Antiseptics. Medicines which prevent or correct putridity. Peruvian bark, opium, prepared ammonia, yeast, and wine, are said to possess this property; and, as an external application, the fomenting poultice has been strongly recommended. See *Poultice, Mortification and Fever*.

Antispasmodics. Medicines which are designed to cure those diseases which depend upon spasmodic or convulsive action of any part of the body, as in locked jaw. Opium, &c., and camphor are considered as the most powerful medicines of this class.

Apoplexy. According to Gibson, the following are the symptoms of this disease: "In apoplexy, the horse drops down suddenly without sense or motion, only a working of his flanks; the previous symptoms are drowsiness, watery eyes, somewhat full and inflamed, a disposition to reel, feebleness, a bad appetite, and almost a continual hanging of the head or resting it in his manger; sometimes with little or no fever and scarcely any alteration in the dung or urine." His method of treating it consists in bleeding plentifully, and keeping the horse for some time to an opening diet of scalded bran, and sometimes scalded barley, lessening the quantity of

his hay. After two days the bleeding is to be repeated, but in a smaller measure; if the horse has a cold, it will be proper to give him pectorals, such as are prescribed for colds; but if no symptoms of a cold appear, it will be necessary after bleeding and a spare diet, to give him two or three aloetic purges.

Apoplexy seems to depend either upon too much blood being sent to the brain, or upon a rupture of a blood vessel in that organ; bleeding therefore is the essential remedy; to prevent a return of the fit, purging medicines, with an opening and spare diet, are certainly proper; but I think the "scalded barley" may well be dispensed with. Setons or rowels should be placed about the head, or the whole of the forehead blistered. The most effectual mode of bleeding in this disease is to open one or both of the temporal arteries: but where this cannot be done, both of the neck veins should be opened, that a large quantity of blood may be taken off in a short time. It is necessary to distinguish apoplexy from lethargy, or sleepy staggers (see *Lethargy*.) because that disease requires a different treatment. There are other fits to which horses are subject, that may appear to be a slighter degree of apoplexy than that described by Gibson; but as their treatment is in some respects different from that of apoplexy, they will be described under the following heads: *Dropsy of the Brain, Epilepsy, Vertigo, Staggers.*

Appetite. Want or loss of appetite may arise either from fatigue, from what is termed fever in the horse, or from a diseased state of the digestive organs. If it depend on the former cause, give a cordial ball; and if the subject be cold, or accustomed to take cordials, give it as a drink, mixed with ale.

Loss of appetite, depending on fever, or general indisposition, commonly requires bleeding and laxative medicines; but if it is caused by worms, or a diseased state of the stomach or bowels, a mild mercurial purgative is most proper, unless the disease be of an inflammatory nature.

Horses sometimes fall off in condition, not so much from want of appetite, as from pain and difficulty, either in masticating their food or swallowing it; the method of distinguishing and treating such cases may be seen under the heads *Mouth, Teeth, Diseases of, and Sore Throat*.

Should the horse continue off his appetite after the operation of the purgative, tonic medicines may be given (see *Tonics*). Loss of appetite accompanied with languor and general debility, often happens at the time of moulting or changing their coats, in such cases both bleeding and purging are improper, but tonic medicines will generally be beneficial.

Appetite, Craving, may justly be considered a disease, and one of importance too; for unless restrained, it often causes incurable cough, roaring, broken wind, and other diseases. Horses that have the excessive appetite will eat even their litter when limited in hay; the only effectual restraint, therefore, is a muzzle, which should be worn constantly, except when he is feeding. The corn should be mixed with a large proportion of clover chaff, and only a small quantity of hay allowed; his allowance of water also should be very moderate. A purgative is the only medicine likely to be of service.

ARSENIC. A poisonous mineral, sometimes used in veterinary medicine, both internally and externally. Though arsenic has been given to glandered horses in the immense dose of two drams, in many instances without any violent effect; it has sometimes, in much smaller doses, irritated the stomach and bowels in a considerable degree; and in one case, where it was continued by mistake, after that effect had been produced, the horse was destroyed by it, much caution, therefore, is required, when arsenic is employed. It is proper to begin with small doses, about ten grains, increasing them gradually, and carefully watching the effect. Whenever it appears to diminish the appetite, or cause uneasiness in the stomach and bowels, no more should be given until such effect shall have ceased. Arsenic should not be given when the stomach is empty; a thin bran mash first may be given to the horse. Arsenic has been considered as a powerful tonic, and has been often employed in glanders and farcy; it has also been given in cases of general debility. (See *Appetite, Glanders and Farcy*.) Arsenic is sometimes employed as an external application in several diseases; but in these also it should be used with caution, and generally requires to be diluted or mixed with other drugs. To dissolve arsenic, it should be boiled in water, with an equal quantity of carbonate of potash; in this state it is said to be less dangerous. See *Mange, Scab, Cancer, Quittor, and Spavin-bone*.

[To be continued]

CURE FOR A WEN.—(An Indian prescription.)

First, take a pound of new butter, without salt, lay it in a coal oven; get a bullfrog, without hurting it, (says the Indian,) the frog must be alive:—lay the frog with the back down in the butter; bake the frog until it is well done; take it out, pour off the butter in a vessel, and anoint the wen as often as you please in the course of the day—This cure has been tried on a wen that had been growing for 30 years, and had become quite painful, attended with an itching. It ceased the first day this was tried, and sunk very soon. In eight or nine months the body of the wen was squeezed out, without pain. The patient thinks it would have come out much sooner, but she neglected it, as it did not hurt. The application produced a curious sensation, as if it was searching to the roots. Any person thus affected, need not hesitate to try the experiment as it is very simple.—*Rich. Com.*

Instructions for Practical Naturalists.

** In number 18, page 141, under the head *Hints to American Tourists in foreign Countries*, we copied instructions for the preservation and transportation from one country to another, of seed and plants; we have now the pleasure to add what may prove useful hints to the American Traveller and Zoologist, who desire to study the history and to preserve specimens of individuals in the animal kingdom.

On procuring an animal with which we are unacquainted, the first point to which our attention should be turned, is to ascertain whether it is convertible into food, clothing, or is otherwise applicable to the uses of man; whether its skin is of such a nature, as to be serviceable in trade or commerce; whether it possesses glands for the secretion of musk, or other uncious matter; whether from its size or nature it is likely to be

reducible to agricultural purposes, and most particularly to what purposes, (if any, and by what means it is rendered subservient to the uses or comforts of the inhabitants of that country whereof it is a native; or should its habits be detrimental or obnoxious, what measures are pursued to destroy the species, or to avert its mischiefs.

Endeavours should be used to ascertain the food generally consumed by each particular kind, its time of gestation, the number of young it produces at a birth, at what age it arrives at full growth; the differences in appearance in the different sexes; whether as it advances in age, any particular change takes place in its general appearance, either by attaining horns, tusks, &c. &c. By attending to particulars of this kind, the practical naturalist will not only obtain a mass of information amusing and instructive to himself as a philosopher, but most probably of very considerable importance to the community at large; and this he may render entertaining in the highest degree, by giving correct accounts of the modes pursued in different countries, to obtain the various kinds of animals either for food, raiment, or amusement; the plans adopted to reduce the wild animals to a state of domestication, and by stating whether, when so domesticated they continue to propagate; and what species are in general request either for domestic purposes or exportation.

It is obvious that inquiries of this kind cannot fail of ultimately producing general good, as by becoming acquainted with the wants and products of distant countries, the attention of our merchants and manufacturers, will be naturally turned to the supplying those wants, and by the exchanging the manufactures of this country for the natural productions of others, reciprocal advantages must accrue.

To facilitate the inquiries of succeeding naturalists, as well as to afford an opportunity of examination to the man of science, many plans have been at various times adopted, with a view to preserve the skins of animals, and to exhibit them in their natural forms, for which purpose the mode we have practised with the greatest success, we shall now proceed to detail.

Having obtained any quadruped which we are anxious to preserve, we take its measurement, as by so doing, we are the better enabled to judge of its proportions when exhibited in a cabinet. The length of the animal from the nose to the insertion of the tail, the length of the tail; the height at the shoulders and hips; the girth at the neck, breast, and loins, and any remarkable appearance in the structure of any of its parts, should all be carefully noted.

In drawing or describing any quadruped, the following particulars should be observed. The number, form, disposition or absence of the teeth, horns and claws; if the latter are retractile as in the cat tribe; the form of the feet or hoofs, whether the animal be covered with wool, hair, spines or scales; does it possess any name; the form of its ears and tail, if the latter be prehensile, or is capable of being used as an auxiliary in seizing any object, or to assist in escaping from any danger; if the posteriors are bare or callous, and if the animal is capable of distending its

checks, so as to form pouches, as in many of the Monkey tribe; or if possessed of abdominal pouches for the securing of their young, as in many quadrupeds of New Holland; the colour of the eyes should be noticed the instant the animal is obtained, as almost immediately after death it is subject to change.

When the foregoing remarks have been made, the next object is to skin the animal; and as the value and appearance of a cabinet of quadrupeds depends entirely on the perfect state of the skins, too much pains cannot be bestowed in the operation, which should not be commenced till some hours after the subject is dead; as in that time the blood will have coagulated, and there will be less danger of soiling the skin.

The animal should be opened down the middle of the belly, and the skin stripped back to the knee and elbow joints, which should be left with the skin, care being taken to remove all the flesh and integuments from the bones; the skin may then be drawn over the neck and head; the body is to be separated from the head at the first joint; the surface of the skull must then be thoroughly cleared of all flesh; the eyes, brain, tongue and flesh in the interior of the mouth, must be taken away, and freed from all loose skin, or integuments, that may be attached: when this is effected, the skin may be returned to its proper position; and the cheeks must be filled out with cotton or other soft substance, mixed, with a considerable quantity of antiseptic powder, composed of one third of white oxide of arsenic, and two thirds of powdered burnt alum; this powder should be rubbed in the inside of the mouth, and all the cavities of the head, as the eyes, ears, and nostrils, should be filled with pledgets of cotton, dipped first in a strong solution of corrosive sublimate of arsenic, and a quantity of the powder strewed into each place.

The inside of the skin, and the leg bones, when quite clean from all loose skin, &c. should be rubbed well with the powder, this rubbing should be repeated occasionally until the skin acquires a considerable degree of dryness; if the animal be large the leg-bones cannot be conveniently retained attached to the skin, but in all cases where it is practicable, considerable advantages will accrue from their preservation, — this last remark applies also to the skulls of the larger quadrupeds, which should in all possible instances be preserved, whether attached to the skin or not. Of such animals as possess soft or spongy feet, the soles may be opened, and all the fat and muscular parts removed; after which, the powder should be applied plentifully, and before the skin becomes hard or dry, the cavities of the feet should be filled with cotton as directed for the head, and the incisions sewed neatly up.

When the skin is thoroughly dry, it should be so packed as [if possible,] to exclude insects; the drying should be performed in the shade, and the utmost vigilance is necessary in observing that no skin be packed till it is perfectly so: and to assist in drying, the skins should be kept distended, and exposed to the air. In skinning those animals that are furnished with abdominal pouches, it would be better to open them longitudinally on one side, otherwise this curious character will be destroyed; and in all animals possessing glands for the secretion of musk or

odour, these organs should be carefully preserved.

As a collection of skins necessarily occupies much time in procuring, to preserve them free from injury when obtained, is an object of the first importance. In order to succeed in this, two principal causes of injury must be carefully guarded against—*Damp*, and the attacks of *Insects*; the former we generally have it in our power to avoid, but the latter assail collections of this kind in so many ways, and under such varied circumstances, that the collector must be ever on his guard; since it very often happens that the very means used to destroy one kind of insect, calls into existence myriads of others equally destructive. As a general plan, we have succeeded best by exposing from time to time dry skins to the action of heat, which by repetition though it may fade their colours, in a slight degree, has the great advantage of eventually destroying all insects.

When a box is filled with skins, or rather when a box full is obtained, if circumstances will permit, the skins should be loosely placed in a large case with a glazed front, having all the seams or joints carefully stopped, by pasting strips of paper over them; in this state the case should be gradually brought before a large fire, where it may remain six or eight hours; by having a glass front, if any insects, particularly of the *moth* kind, are amongst the skins, the heat will soon cause them to flutter about, and they can easily be perceived when dead. But lest any of the insects so destroyed, should have deposited their eggs on the skins, the frequent repetition of this plan is desirable, previous to the skins being finally packed.

When about to be packed, each skin should be wrapped in a separate paper, (the common brown paper is to be preferred in all cases, as it resists damp more than any other kinds, and is less liable to be devoured by insects) with a memorandum of what particulars belong to it, as the having a duplicate of this kind, though it may trespass somewhat on the time of the traveller, will not unfrequently amply repay him for his trouble. The skins should be packed as close as possible, and when the package is full, the joints and cracks should be stopped with pieces of paper pasted over them, but even in this, some caution is necessary, as paste affords a nidus to numerous insects, which frequently deposit their eggs on it, as a proper food for the larvæ when hatched. To prevent any unpleasant effects of this kind, a considerable portion of corrosive sublimate or arsenic should be mixed with the paste before it is used: and when the paste is thoroughly dry, the places so covered should be washed over with a strong size, in which arsenic or sublimate is held in solution; the size may be formed of pieces of skin boiled in water, until completely dissolved, and the arsenic or sublimate should be mixed with it whilst hot. If previous to being put on ship-board, the cases should be covered over with a thick coat of oil paint, it would most effectually exclude both damp and insects. With these precautions, we have known skins of the most delicate species of quadrupeds and birds, remain packed for three or more years, even in warm countries, without receiving any perceptible injury.

When a box of skins shall be re-opened, the skins should be exposed to the fire as before directed, after which they will be in a fit state to put up. This part of the undertaking is attended with a considerable portion of trouble, and to succeed well requires no small degree of ingenuity. We recommend every person desirous of attaining perfection in this art, to have a lesson or two from some skillful practitioner, as it is not an easy matter to succeed in a task of this kind from any instruction, without the assistance of practical illustration.

The best mode to pursue in setting up the smaller kinds of quadrupeds, is, by forming a false body; this may be done with a piece of iron wire, of a substance proportioned to the size of the animal, and should be of sufficient length to pass through the skull (if retained) and to protrude a little, and also to extend rather beyond the tail; the ends of the wire should be filed to sharp points, to prevent their tearing the skin; and it should have previously been thoroughly heated in the fire, to render it quite flexible: this is to be wrapped round with tow or fine rope-yarn, till it is sufficiently large to fill out the skin; lateral pieces of wire should be introduced through the soles of the feet, and when practicable through the leg-bones, and attached to the principal wire running through the body; every part of the skin should be filled out to its full extent; and some of the powder should from time to time be introduced with the stuffing. The leg-wires must be sufficiently long to pass through the soles of the feet, and through a piece of wood capable of supporting the animal, to which it may be fixed, as it can then more easily be dried. Previously to the skin being stuffed, if a dried one, it will be necessary to wrap it in damp cloths for twenty-four hours or even longer, according to the size and substance of the skin: some of the largest quadrupeds will even require thoroughly soaking in water for some days; animals of the size of the horse, ox, rhinoceros, &c. will be most faithfully represented by having their skin supported by a frame of wood, which will give them stability; otherwise, from their weight, they are liable to get out of shape; but as it is hardly probable that the stuffing of this description of animals will be attempted by any but a professor, we consider further remark on this point unnecessary.

When the skin is filled out to its extent, it is to be carefully sowed up with strong double silk; the needle should be a curved triangular one, such as is used by surgeons, the fur may then be smoothed over the seam, which will hardly be perceptible. The animal should be placed in a easy and natural position as possible, at the same time recollecting that natural effect ought not to give place to elegance of form. Before the skin is quite dried, the eyes should be inserted, and to enable the operator to represent the animal with eyes of their natural colour, it is desirable to have as correct a representation of them as possible; glass eyes of all sizes and tints are to be procured at the glass bead makers, in London: they should have a piece of wire attached to them, by means of which they may be securely fastened; and to give them a natural appearance, they should be somewhat larger than the natural eye, and the eye-lids must be carefully brought forward so as completely to include,

and which will reduce them in appearance to the natural size.

The next business is to dry the stuffed skin, which may be best done in a shady room, into which the air is freely admitted; in a week or more, according to the bulk of the subject and the state of the atmosphere, the skin will be dry; but to dislodge any remains of moisture, it may be brought within the influence of a fire, but by no means close; after which it should be placed in a glass case, with the seams and joints closely pasted up; and lest any insects should be attached to the skin, it will be better that the case be baked in the manner already directed, relating to the packing the skins. The skins of animals that are in a recent state, should be treated in all respects as the foregoing, excepting that the skins should not be filled out to the full extent, as in drying the skin is liable to shrink: fresh skins will also require much more of the antiseptic powder to be used when stuffing, as it absorbs the grease contained in the skin; and they will require longer time in drying, before they are in a fit state to place in cases. The wires that pass through the legs should be brought through the bottom of the case and there turned, by which the skin will be kept in an erect posture, and to prevent its weight inclining the animal forwards, a piece of wire may be introduced through the back of the case and attached to the body, which will effectually prevent its moving, at any time the case may require to be taken down. As a pleasing relief and to ornament the inside of the bottom of the case, a quantity of dried moss, finely powdered and mixed with a little coarse sand, may be sifted over it, first moistening the ground with thin carpenter's glue; the ground may be further enlivened by introducing sprigs of moss or dried grasses.

To persons visiting foreign parts for the purpose of pursuing this study on a more extended field, we take leave to remark, that in all cases where it is practicable, the skins of both sexes in the adult state are particularly desirable, as also that of a young, when any remarkable difference is apparent, as for instance, the skin of *Felis concolor*, the Puma or American lion, is, (as its specific name imports) of one uniform colour, whilst in its infancy it is spotted, afterwards the spots appear oblong, almost stripes, and when it attains its full growth, they entirely disappear.

As it may be more convenient, at the time of procuring many of the smaller species of quadrupeds to preserve them entire, till a more convenient opportunity offers for stuffing them, they may be safely put into glass or earthen jars, or small casks filled with one third spirit of wine, arrack, rum, or other spirit, and two thirds of a strong solution of burnt alum; care should be taken not to use, if avoidable, coloured spirit of any kind, as it frequently happens that when coloured, it will leave a stain on the lighter part of the skin or fur, that cannot be removed. The solution of alum should be made by pouring one quart of boiling water on eight ounces of alum, and when cool, the water should be poured off, as some water will not hold that quantity in solution; and if a larger quantity be dissolved at any one time than is required, the water may be evaporated either over a fire, or by placing the solution within the influence of the sun, and the alum will be deposited in crystals, which only require

being burnt over a common fire to be fit for using again. The preserving in spirits has this decided advantage, that at any subsequent period the animal will be seen with all its parts perfect, and may offer interesting amusement at a more leisure moment, than often falls to the lot of collectors whilst absent from home.

To succeed in the different operations already enumerated, the traveller must be supplied with the necessary instruments, and these in duplicate; such as *Dissecting Knives*, *Scissors*, *Forceps* of different shapes and sizes; and what we have found particularly useful, is an instrument known to hard-waremen by the name of *Budding Knife*, and for which purpose it is in general use by gardeners;—the blade should be long and thin, and the handle thin, flat, and rounded at the edges; besides these, *Pliers* of different sizes and forms, as round, flat, and cutting are indispensable; *Needles* of various sorts, as surgeon's curved and flat needles; straight triangular needles, such as are used by glovers; and the common kinds in variety. The latter, besides being useful to the traveller himself, may prove a most valuable present in distant countries, where the intercourse with Europe is but trifling or accidental. *Strong Thread* and *Silk* should not be omitted; but the latter is always to be used in sewing up skins. Various kinds of *Paper* should likewise form part of the traveller's investment, and particularly coarse brown paper, as it is of more common request and possesses many advantages over the other kinds.

In the foregoing instructions the author has endeavoured to avoid all unnecessary expense and trouble; the *antiseptic* he recommends, possesses all the requisites, and though simple, he feels confident it will be found equally efficacious with any of the most expensive preparations of the kind; but as it may not at all times be obtainable, any of the following articles may be used with a probability of success.

Ground or whole pepper and most kinds of spices, avoiding those of an oily nature; ground tobacco; corrosive sublimate; sulphur, musk, burnt alum, (which may be prepared by burning common alum over a fire till it loses its transparency;) camphor; and the mere enveloping a skin in common brown paper that has been saturated with allum and arsenic in solution, has also been successfully tried.

As each practitioner has a method peculiarly his own, in performing the operations of skinning and stuffing animals, the author does not presume to say his is the best; but if simplicity joined to economy are worth attending to, his plan at least has these to recommend it.

To facilitate naturalists in making their remarks on any animal they may procure, a sketch of a table is annexed, which we would recommend to every person attending to Natural History, to have constantly in their pocket book; or at least some one on a similar plan; which may be procured at most booksellers or stationers, ruled to their own pattern; by having tables of this kind always at hand, opportunity is afforded of immediately putting our remarks on paper, without any delay, as it often happens that when subjects of this nature are committed to memory, others of equal interest soon after occurring, the ideas of both become confounded, and a difficulty is experienced in separating the particulars of each.

Date.	MEMORANDUM.	FOOD.	Places of Resort and Manners.	To what purposes applicable.	Length.	Girth.	Colour.	Colour of eyes.	Nav. name.
1819. May. 23.	This day we discovered a small animal which was sporting amongst the shoots of the Cocoa Palm: we killed two, which proved to be male and female. On examination we found it to belong to Order 4. Genus 6. Squirrel.	It devoured the young leaves and shoots of the Cocoa Palm. Afterwards having obtained one alive, we found it easily tamed, and that it eagerly drank of the wine made from the Palm-Tree.	We found this species extensively dispersed from lat. —, to lat. —: they associate in large numbers, and on the least noise they lie lengthways along the branches, with their tails extended: at one time we observed them greatly alarmed at the appearance of a snake, which was making its approaches along the branches, and though so terrified that numbers let go their hold and fell to the ground, not attempting to escape: the snake having taken two or three retired, and the squirrels again resumed their sprightliness; we at various times noticed them devoured by the smaller birds of prey. They build in the axæ of a branch, or in a hole in a tree; their time of gestation (we were informed) is five weeks and they produce four at a birth; these are eagerly sought for by the natives, who exchange them with the inhabitants of other islands, where they are kept confined in cages, ingeniously constructed of thin slips of cane: in confinement they feed on pieces of the Banana, and on most kinds of fruit.	When the dry season is nearly over, the inhabitants go in numbers into their places of resort, and kill them by hundreds, either with blunt arrows or sticks, these are procured for the sake of their skins, which are in great request for the purpose of clothing, and every family is expected to present a certain number to their chief every hunting season; besides which they part with them to neighbouring tribes in exchange for cattle, tobacco, and what European produce they can obtain.	Length of the animal, from the tip of the nose to the insertion of the tail, five inches; the tail three inches.	About four inches and a half.	Body grayish brown, with three longitudinal yellowish stripes, tail annulated with black and white.	Irises brownish yellow. Soon after death the eyes lose all the yellow tinge and become blackish.	It is called by the Dutch inhabitants of the Cape, <i>Haselichhorn</i> .
29	Early this morning we were surprised by an immense herd of Antelopes that passed our encampment at about gun-shot distance; we learn that they migrate twice a year, and were now on their route to the South-west, and they return again in about two months; by these migrations they are able to avoid the inconveniences of the rainy season, as also those of extreme drought. The natives as soon as they observe the first herd, dig pit-falls, which they cover with boughs, at the distance of ten or twelve paces apart, in some narrow pass, and often capture several hundreds in one day; they use their flesh for food, and their skins for various domestic purposes.								
June 3.	Saw a small herd of Zebras, but at such a distance as to be beyond the range of our rifles. During the whole of this night we were kept in a state of alarm from the continued howlings of Hyænas, and other wild beasts; but as we kept up large fires, and frequently discharged some of our fire-arms, we suffered no other inconvenience.								

THE FARMER.

BALTIMORE, FRIDAY, SEPTEMBER 10, 1819.

GUINEA GRASS SEED.

Within the last week, we have been kindly furnished with a small parcel of *Guinea Grass Seed*, from Hallowell, District of Maine, where it was received from Jamaica, in July 1818. It has been divided and sent to agricultural societies, in the southernmost states, where there is the best chance of its being successfully cultivated. A small quantity more is expected, which will be, in like manner distributed to agricultural societies in this state.

In addition to what has already been published in this paper concerning this grass, we now copy a notice of it, which we find in *Bryan Edward's History of the West-Indies*, to show in what high estimation it is here held; we can see no reason to doubt that it would be a great acquisition in all our southern states.

May it not, indeed, happen, that this grass, will supply, in those states at least, the great desideratum so much required, to complete the soiling system, by giving a cut of green food, at seasons when no other kind of grass can be relied upon to yield it?

The want of an early cut of grass, coming in before clover and of less difficult cultivation than lucerns well known to every farmer. This deficiency, we are of opinion, might be removed by sowing lots of round, in good heart, with *Rye*, at this season. Such lots, would give a fine heavy cut, at least three weeks before clover, with which it might be sowed as a protector, and would offer itself to the scythe three times during the year. In page 214, 15, Edwards says:—

"The other kind, called Guinea grass may be considered as next to the sugar-cane, in point of importance; as most of the grazing and breeding farms, r pens, throughout the island, were originally created, and are still supported, chiefly by means of this valuable herbage. Hence the plenty of horned cattle, both for the butcher and the planter, is such that few markets in Europe furnish beef at a cheaper rate, or of better quality, than those of Jamaica. Perhaps the settlement of most of the north-side pa-

ishes is wholly owing to the introduction of this excellent grass, which happened by accident about fifty years ago; the seeds having been brought from the coast of Guinea, as food for some birds which were presented to Mr. Ellis, Chief Justice of the island. Fortunately the birds did not live to consume the whole stock, and the remainder, being carelessly thrown into a fence, grew and flourished. It was not long before the eagerness displayed by the cattle to reach the grass, attracted Mr. Ellis' notice, and induced him to collect and propagate the seeds; which now thrive in some of the most rocky parts on the island; bestowing verdure and fertility on lands which otherwise would not be worth cultivation.

The accidental introduction of the Guinea Grass, into Jamaica, and its peculiar adaption to the soil and climate will remind the reader of the first introduction of wheat into Mexico, with a bag of rice, in opening which, *Corte's* negro slave, Juan Garrido found three grains, and sowed them in a garden; two of them grew, producing one hundred and eighty grains, which when again sowed, were equally productive. By little and little, (says Gomara) here was raised an infinity of it. (*Cronica de la Nueva Espana*, chap 231.

Corte, that politic savage, in his fourth letter to the emperor, twice importunes him to order plants of all sorts to be transported from Spain to America, as the natives were given to agriculture; and herbs and roots and trees, flourished admirably. He suggests what is worthy of being noticed by more polished statesmen, that orders be given to the Company's Mercantile House (*casa do contratacion*) in Seville prohibiting vessels from sailing without seeds, and compelling each to bring a portion, §§ xvi, xxxiii. And here speaking of the wisdom of that policy, which encourages the introduction from abroad of valuable seeds, animals, &c. &c. we recollect that our attention was drawn to it, soon after the commencement of our humble editorial enterprise, by a letter from a gentleman, whose name our selfishness makes us regret that we are forbidden to mention, as such names would not fail to give respectability to whatever they patronise. On this subject he observes:—

Our seamen, including the supercargoes, with the

various ship officers, have done but little for their country's improvement. They explore every climate, and should always bring home something that might benefit the country—valuable animals, seeds, &c. &c. If the first column of your paper contained a standing admonition upon the subject, pointing out the finest and most desirable stock of each country, the best method of preserving seed, * and what trees, shrubs, plants and grains, are most desirable, the intimation would operate as a stimulus. The beautiful and superior cattle of South America—the pure breed of pacing horses of Chili; the fine hornless milch cattle of Suffolk, and the immense long woolled sheep of Leicestershire, in England; the fine breed of white horses in Sweden, and the thousands of useful and ornamental trees, shrubs, plants, grains and grasses, that we have yet to experiment upon. It is to our merchant ships, we must be indebted for these.

The present Secretary of the Treasury, by his instructions to our Consuls abroad, has paved the way, which there can be no doubt will lead to great improvements in the agricultural productions of our country. Already have we seen seventeen different kinds of grain, sent in virtue of these instructions, and placed for experiment in the hands of H. S. THOMAS, an enterprising farmer in this county.

Thus it is, that man is often indebted for his greatest blessings and benefits, rather to providential accidents, than to his own foresight and management; as the human character itself, is frequently modified and rendered eminent for its virtues, or detestable for its vices, according as it happens to be impelled by external circumstances of a propitious or ruinous tendency. It was, as we are told, for example, a chance, that illumined the genius of Milton. Cromwell died, his son succeeded him and was driven out

* In No. 18, page 141 of this volume, the reader will find particular directions for preserving seeds,

of England; Milton participated his ill fortune; he lost the place of Secretary to the Protector, was imprisoned, released and driven into exile. At last he returned, retired to the country, and there, in the leisure of retreat and disgrace, he executed the poem which he had projected in his youth, and which has placed him in the rank of the greatest of men.

If Shakspeare had been like his father, always a dealer in wool; if his imprudence had not obliged him to quit his commerce, and his country; if he had not associated with libertines, and stole deer from the park of a nobleman; had not been pursued for the theft, and obliged to take refuge in London, engage in a company of actors, and at last disgusted with being an indifferent performer, he had not turned author; the prudent Shakspeare, had never been the celebrated Author; and whatever ability he might have acquired in the trade of wool, his name would never have reflected a lustre on England.

A chance, equally trivial, to all appearance, determined the taste of Moliere for the stage. His grandfather loved the theatre and frequently carried him there—the young man lived in dissipation; the father observing it, asked in anger, if his son was to be made an actor. Would to God, said the grandfather, he was as good an actor as Montrose. Those words struck young Moliere, he took a disgust to his trade, and France owes its greatest comic writer to that accidental reply. Moliere, a skilful tapestry maker, had never else been cited amongst the great men of his nation. Corneille loved, he made verses for his mistress, became a poet, composed *Melite*, the *Cinna*, *Rodogune*, &c. was the honour of his country, and is an object of emulation for posterity. The discreet Corneille had remained a lawyer, and composed briefs that would have been forgotten with the causes he defended. Thus it is, that the death of Cromwell, deer-stealing, the exclamation of an old man, and the beauty of a woman, have given four illustrious characters to Europe.

European grain was first brought to *Quito* by Father JOSE RIXI, who sowed it in the grounds of the convent of St. Francis, and the monks to this day exhibit the vase that contained the original grain, as if it were a sacred relic. (*Bonycastle's Compend*, &c. on South America, p. 222) But Humboldt, says a vast deal on the subject in his *Political Essay* on New Spain.

Great Despatch in Wheat Cleaning.—On the 26th day of August, 1819, at Waverly, the seat of Mr. Geo. W. Howard, in Baltimore county, one of Jacob Bromwell's *Patent Fans*, made and sold in this city, by Henry Herring, (and of which an elegant engraving is to be found in the 13th number of the *Baltimore American Farmer*) cleaned twenty-six and a half bushels of chaff wheat in seven minutes and a half. The operation was performed in the presence of several gentlemen of the first respectability, who held their watches, and who have certified the fact.

We should be thankful to any of its members, who will send us a copy of the Constitution of the *Agricultural Society of St. Mary's County*,

with a list of the names of the members. The same request is made of all other Agricultural Societies, which have been or may be formed in the United States. Let others record and mark the changes of constitutions for political government. Be it our business to register those which may be established for the regulation and better management of the *Plough* and the *Harrow*—the *Loom* and the *Dairy*.

AN ANNUAL INDEX.

The subscribers to the *American Farmer*, may expect an *Index* to accompany each volume at the end of the year, which will enable them to turn readily to any particular article they may wish to find.

PRICES.—As to the prices of Country Produce, we have nothing material to say to our subscribers this week. Some change has occurred in Wheat: Red may be quoted at 1 07 to \$1 10; White, at 1 12 to \$1 15; Hay, best Timothy, \$20.

Sixteen vessels arrived at Beverly lately, with from 20 to 60,000 fish each—making a total of 604,000.

The Arkansas territory, over which General Miller is to preside, as Governor, is represented as rich in soil, and having the advantages of an unobstructed and noble river of more than 2000 miles in extent. It is also said to abound in silver, and that with half the labour and expense that is expended in working the mines of Peru and Mexico, a richer abundance of the precious metals might be produced. It is worth "trying" at least.

Agency for Patent and Copy Rights at the Seat of Government.

THE Subscriber respectfully informs Inventors and Authors of every section of the Union, that by suggestion of several scientific gentlemen, he has been induced to open an office of agency for Patent and Copy Rights: wherein will be transacted, for a reasonable compensation, all business requisite for obtaining Patents and other official documents from the Patent Office, and for securing to authors and proprietors, copy-rights for books, maps, &c.

Drawings of Machines, and specifications of their construction, will be carefully made out at this office, which will possess the most ample legal assistance, as well from the books of laws and decisions, as from the obliging aid of the enlightened gentleman at the head of the Patent Office.

The heavy expense incurred by ingenious men who have hitherto thought it necessary to come to Washington, in order to take out their patents, will henceforward be obviated, if they avail themselves of this Agency.

By the Act for the encouragement of learning, it is made indispensable, in order to secure a copy-right, that the copy of the book, map or chart intended to be secured, be delivered at the Department of State, to be deposited in the Patent Office, within six months from the publication of the work. Authors and publishers are deeply interested in the strict compliance with this provision of the law, as any deviation from it will render their works liable to encroachments, without the least legal remedy.

Authors and Inventors are invited to send their orders to this agency; and may ship their books,

models, &c. to Alexandria, Georgetown or Washington, (giving notice thereof by mail) whereby without farther trouble to themselves, the necessary business will be correctly transacted, and their certificates and patents forwarded with the least possible delay.

SALES OF PATENT COPY RIGHTS.

This Agency will also afford to Inventors and Authors an opportunity of disposing of their Rights, to individuals; as it is the intention of the subscriber, to open a book for the purpose of affording applicants, every information in relation to the Rights which may be entrusted to him for disposal. It will therefore be necessary that those who employ him, furnish him with adequate descriptions and instructions as to terms, &c. Individuals wishing to purchase any of the patented inventions or copy-right books of the United States, will find this agency a convenient medium; and the strictest attention will be paid to their applications.

WILLIAM BLAGROVE.

Washington City 19, 18.9.

Washington City, March, 1819.

I cordially congratulate that valuable class of citizens, the Inventors of the United States, on the establishment of the above-mentioned Agency for Patentees; and more especially, from the consideration that it is undertaken by a gentleman so eminently qualified for its duties as Mr. Blagrove.

BENJAMIN DEARBORN,
Of Boston, Patentee.

Publishers of Newspapers, friendly to Inventors and Authors, may benefit them by giving the above a few insertions.

VALUABLE PATENT RIGHT.

The subscriber is authorised to dispose of rights for the states of Virginia and Maryland, and the district of Columbia, to use Deming's Horizontal Wheel for tide and wind mills, and his perpendicular Wheel for steam boats, both of which possess very superior advantages to any other water wheel hitherto invented. The Horizontal Wheel supercedes the necessity of building dams and floods, where a sufficient current can be obtained; and if the current, as in the ebbing and flowing of the sea, sets sometimes in one direction and sometimes in the other, a simple winch will instantly adjust the wheel to it, and cause it to continue turning in one direction. The expense of constructing this wheel will not exceed one hundred and thirty dollars. A six foot wheel is capable of turning two or three run of stone in a three knot current. It is easily applied to steam boats, and from the direction of the floats, on entering and emerging from the water, greatly diminishes the loss of power, so apparent in the common wheel; giving thereby, at a fair calculation, an increase of one half to the usual velocity.

For wind mills it is believed, to possess double the power of any other wind mill now in use.

Every necessary information will be furnished to those who purchase rights, and further explanations will be promptly given to applicants inclined to avail themselves of this truly valuable invention.

Applications by mail must be post paid.

W. BLAGROVE,

Office of Agency for Patent and Copy Rights.
Washington City, Sept. 1, 1819.

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AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, SEPTEMBER 17, 1849.

NUM. 25.

AGRICULTURE.

From the Albany Argus.

Treatise on Agriculture.

SECTION VI.

Of Manures—their management and application.
Continued from No. 24—p. 187.

The preceding remarks are confined to stable manures. What remains to be said, applies to lime, marle, vegetable ashes, ashes of earth, and green crops ploughed into the ground.

It will be remembered, that the action of lime, as a manure, is owing to its causticity, or power of dissolving animal or vegetable substances; and to its quality of absorbing carbonic acid from the atmosphere. These properties render it peculiarly useful in composts, or mixtures of dung, peat and earth; a mass of which, disposed in alternate layers is no doubt, the perfection of this branch of husbandry.* It is also applied without any accessory, and with great advantage, to marshy grounds, to those having in them the remains of shell fish,† to natural meadows, and to all soils, abounding in vegetable mould. On those of a different character, it must be cautiously used as to quantity, and indeed, on any soil, an excess of it, will completely destroy the fertilizing principle; an effect constantly observed near mortar beds.

The time of using it, is liable to less uncertainty. On wheat it should be sown, as soon as the grain shows itself, and on meadows, late in the fall and after the cattle have been turned off.

Marl, being a compound of clay and lime, has the properties of the latter and produces similar effects, but in a smaller degree. Hence it is, that the quantity of it given to the acre, is much greater than that of lime. The English practice is to spread it over a field to the depth of three or four inches. This is done late in the fall, to the end, that frost and rain may break down and pulverize it.

The properties of ashes, whether derived from the combustion of animals, of vegetables, or fossil coal, are nearly the same: and resemble those of lime and marl. They powerfully attract and hold moisture and carbonic acid, and they hasten the decomposition of stable manures, or other vegetable or animal product. Their action is most favourable on wet and cold soils, and as a top dressing to natural meadows and turnip crops.

The practice of paring and burning the surface of the earth, has been much used and warmly recommended by the Irish; and in their land

* These might be formed in narrow limits, inclining from the stable.

† There is much of this description of land on the bays and creeks of the Chesapeake.

of bogs, as in the marshes of Holland, where in fertility arises from excess of vegetable matter, it may be useful; but to burn the surfaces of sandy, gravelly, or even of dry clay soils, would be to lose sight of all sound theory.

Soils in general, may be divided into two kinds, sand and clay. The defect of the one is want of cohesion between its parts; that of the other, an excessive or superabundant cohesion. But vegetable matter is, as we have seen, a remedy for both: and to accumulate this, is the constant endeavour of every enlightened agriculturist. Yet are we advised to destroy this vegetable matter by fire, and to substitute for it a small portion of ashes, as more favourable to vegetation, than the soil itself! But in what will these ashes differ from those found in our chimneys, and of which enough may be had? In nothing, excepting that they may possess somewhat more alkaline salt; (†) a circumstance which, if the sub soil be not charged with oily and animal matter will be more injurious than useful.

But, besides the consideration of getting so little, and that little of such equivocal character and use, what do we lose by the process? If we approach these little kilns, we find them emitting a black smoke, which cannot be entirely consumed. Our eyes and noses are assailed by some stimulating and ammoniacal matter, which is fast escaping, and which so far alters the atmospheric air in the neighbourhood, as to render it difficult of respiration. Need we add, that this is the animal, oily and gaseous matter, essential to the vegetable, and highly important to vegetation. It may be, that the ashes obtained, may give one or two good crops of turnips; but even the advocates of this practice, admit that "it ruins the land for an age; and hence it is, that in England, tenants are restrained from paring and burning, especially towards the close of their leases. (||)

Clay burning, is a different operation, and made with different views; not for the production of ashes or salts, which may operate chemically, but merely (by the application of heat) to alter the texture of the soil; to give to it air, artificial division and porosity; to render what was cold, warm; what was wet, dry: and what was compact, granular. But a small degree of heat will

‡ De Saussure's experiments prove, that the stems of trees (other things being equal) produce less of this salt than the branches; the branches less than the twigs; and the twigs less than the leaves. M. Perthuis has formed a table of the relative alkaline products of plants and trees. By this table it appears that the leaves and stems of Indian corn give by the quintal 8 pounds 13 ounces, the oak 1 lb. 5 ounces, the pine 5 ounces.

|| See Cobbett, part second, 168, "Year's residence in the United States."

not produce these effects: for, unlike the stems and roots of plants, clay is not itself combustible; and to bring it to the brick state, the heat applied must be long continued and great; hence it follows, that the practice becomes objectionable, on the score of expense, and the more so, as burnt clay has no possible advantage over the much cheaper substances of sand, gravel and pounded lime stone. The operation of all is merely mechanical, and exactly in proportion to the quantity used.

Our partiality for green crops, ploughed into the ground as manure, has been sufficiently indicated, and it is now only necessary, that we mention the plants best calculated for this purpose. At the head of these, we place buckwheat, as well on account of cheapness as effect: cheapness, because the price of the seed (which is the only additional expense) is below consideration; and effect, because this plant while growing, (from its umbrageous form) is a great improver of the soil, both by stifling weeds and preventing evaporation; and when ploughed into the ground, none decomposes more rapidly, nor has any a more powerful effect, in keeping the earth loose and open to the action of light, heat, air and moisture, all of which are indispensable to vegetation.—"I know no plant, (says Rozier, the great French agriculturist) that furnishes a better manure or which is sooner reduced to vegetable mould, than buckwheat. When cultivated with this view, the usual quantity of seed ought to be increased, and the time of sowing hastened, so as to enable you to have two crops of manure the same season, and before the sowing of wheat.

The lupin (one of the leguminous family) has been long and profitably employed as a manure in Spain, Italy and the southern provinces of France. Columella directs, that "it be sown in September, about the equinox, so that it may attain before winter, a growth, that will enable it to resist wet and frosty weather, which it particularly dreads." I need not remark, that these directions are not calculated for this climate, and that the seed time for the lupin here is the 20th of May. The properties which recommend it as a manure, are nearly the same as those which belong to buckwheat. It is a quick grower and has many and large succulent leaves. While growing, it subsists principally upon the air, and when buried, decomposes entirely and rapidly.

The pea-tribe has the next place in this list; but though not better adapted to the end than buckwheat or lupins, is more capricious than they, and requires a soil of better staple and more preparation. The seed is also more expensive. Of this tribe the yellow vetch, (*lathyrus pratensis*) is the species to be preferred.

Turnips have been cultivated in England with the same view, but the practice has yielded to

another and better; (which, however, is not suited to our climate) feeding them off in the winter and on the field.

For the American Farmer.

CHILE WHEAT.

Dear Sir,

I now send you the samples of Chile Wheat, which were promised in my last.—You will perceive that the grain is neither as large, plump or white as the imported seed; but whether the difference arises from natural or adventitious causes, another year's experience will better determine.—Being a tobacco planter, I have never paid much attention to the raising of small grain; but I think it highly probable that none of our country wheat, seeded under the same disadvantages as the parcel from which these specimens have been produced, would have succeeded as well.

It so happened that I did not receive your letter containing, I think, about a wine glass full of the seed imported by Judge Bland, until late in December, and owing to the frosts which in that month were unusually severe I did not sow it until January. Early in March, it made its appearance above ground, yet looked rather unpromising, and never did acquire the healthy appearance of my crop wheat, which this season was remarkably fine. Nevertheless, in its increase it has far exceeded my crop wheat, and indeed the utmost expectation of all who saw it; for from about half a gill's sowing, I have just measured eleven pints and a half of clean nice wheat. This is an astonishing increase, eighty-five for one; but it must be remarked, that every head was cautiously cut off with my pen-knife, and as carefully rubbed out by the hand; so, that I am persuaded, there has not been a loss of fifty grains in my whole crop.—You will observe that I have sent you several distinct parcels; with discriminating memoranda attached to each.—These have all been produced from the small stock you sent me, and have been preserved, separately; in order to ascertain, by another seeding, whether they are degenerate shoots or sorts of grain differing from the predominant kind, which answers Mr. Seymour's description of it, in a letter published in the American Farmer of the 13th of August. On the stem, the Chile wheat has the appearance of two heads growing together, and notwithstanding many of the top grains did not fill, it still had a much greater and better average number of grains than my crop wheat, as soon as I can procure suitable scales and weights, I shall make some experiments to ascertain its weight, and will advise you of the result.—Mr. Dennis Boyd, of this county, had a small quantity of the seed sent to him for trial, which he sowed in drills in his garden, and after it came up, cultivated it with the hoe.—I saw it frequently whilst it was growing, and never in my life, saw any wheat so luxuriant; unfortunately, however, when the ears began to shoot, the rose bugs attacked it with desolating fury, and I believe Mr. Boyd's crop, which promised much better than mine, has now turned out as well.

With the exception of the red chaff bearded wheat, which is the kind we make altogether

with us, I do not recollect ever to have seen any so little tenacious of the husk or chaff as the Chile wheat—I shall reserve one quart of it to sow in the spring, although I do not think it will answer as a spring grain, and the balance of my eleven pints and a half shall sow this fall at different times, say, the middle of September, and the first and middle of October. I had almost forgotten to mention, that notwithstanding the spring drought, and the entire absence of all disease from my crop wheat, the Chile wheat was all more or less affected by the rust, not enough so as to injure it materially, but quite sufficient to show its liability to that complaint.

For curiosity sake, I send you an unshelled ear of barley, several grains of which came up amongst the Chile wheat, and were imported with it. As it appeared to thrive well, I am disposed to think, it may be cultivated to advantage here—I shall make trial of what I have; this as well as the wheat may be a great acquisition to our country; but from the limited range of the experiments yet made, it is premature, I think, to form an opinion; but let those who have the seed, make a full and diversified trial of it, and we shall then know how far the community ought to be obliged to the meritorious citizen, who, in the midst of his public duties, had the providence to bring it home for experiment, in the climate and soil of his own country.

Very respectfully,

ROBERT W. BOWIE.

Mataponi, Sept. 5, 1819.

FOR THE AMERICAN FARMER.

THE SHOVEL PLOUGH.

Believing that the utility of this article, (in cultivating the soil) is not generally so well known, as it should be for the benefit of the community, especially, and having understood that there are some sections of this country, such too, as are in a good state of cultivation, where the shovel plough is not used at all, I have been induced to offer some remarks, which from my experience and observation, I have had an opportunity of making; both on the construction, advantages, and manner of using that implement. I have endeavoured to learn where, it was first used, and who was its constructor; but this I could not ascertain. I suppose it to have been constructed by some planter, (perhaps in the lower parts of the state of Maryland or Virginia,) it being so simple, and cheap, and particularly well adapted to their mode of culture.

On its construction, I have to remark that, with but a few exceptions, so far as I have observed, the shovel (or part which works in the ground) has been made, of plated iron and from twelve to sixteen inches in width, of different lengths, according to convenience, or choice, and bent to lancy, as nearly as could be effected; but this operation being attended with some difficulty, it was not always done so complete as was desirable. I have seen some made with a nib on the point, to which there was a coulter attached; this construction was designed for, and used in working land on which there was a sod (or sward.) The manner of stocking the shovel plough, is much the same in principle, although their is great difference, in the size and appearance; to give the shovel a proper inclination, requires more care and attention than is generally given to this part of the work, for on it, in a great measure, depends the working of the plough; some work very well, easy both for the horse and ploughman, while others work exceedingly bad, hard for the horse and ploughman, and when the work is

done, it is not to such perfection as it ought to be.—I have thought that the stock is best made about four and a half feet long, on the lower end of this the shovel is fastened, and it may be fixed in different ways. I saw one that I suppose had been made a long time, which had a socket formed by cutting from each edge of the plate, in leaving about four inches in the middle, and the same distance from the top; turning these wings back, form a socket in which the stock was fixed, there being a hole made about one inch below the socket, through which the brace rod passed, to secure the shovel on the stock. This rod passing through the beam at a considerable angle, was secured by a screw, to prevent the plough from being strained out of shape. Others have sockets made of a bar of iron bent and riveted on, through which the leg is passed, and then it is necessary to use wedges also, in order to fasten the shovel on. Some shovels are put on by means of two screw bolts, but I believe one screw if well applied, is entirely sufficient, provided the top of the shovel is let right against the shoulder made in the leg for that purpose, should the beam be let into the leg about ten inches above the shovel, by means of mortice and tenon; a strong round should be put through the leg (or stock) crosswise about nineteen inches long, and eight above the beam, on the ends of which the handles are fastened about sixteen inches from where the ploughman takes hold of them; the other ends are fastened to the beam, being about four feet in length. The timber being proportioned according to the strength applied, the above will, I think, be found about as convenient a construction as can well be come at.

The use of the Shovel plough, I would divide under two heads; 1st, to stir, or pulverize the ground; this will include all that portion of labour necessary in preparing land for the seed (that is where it can be better effected with the shovel, than barshare,) using the harrow when and where occasion may require; also, in attending to summer crops, such as corn, tobacco, potatoes, cabbage, &c for all of which, especially in stiff land of a rolling or inclined surface, and (of course very liable to wash,) the shovel plough, is, in my opinion, vastly preferable to any other tool that I have ever seen tried. In the culture of corn especially, the harrow has its advocates, in all its variety, such as the square tooth, the flat tooth, &c, all of which, when used, amount to about the same thing; that is, the ground has been harrowed only, instead of being ploughed; a mode of culture, which in my opinion, would not satisfy any enterprising farmer. Another article introduced latterly, called the Cultivator, has its advocates also, and perhaps in some situations, it may answer a very good purpose; but in such as above alluded to, I have been told, (which accords exactly with my opinion) that they either do not work the ground deep enough, or they work the horse too hard.*

* The remarks of our respected correspondent, seem to us in most particulars, to be well founded and deserving attention; but he must excuse us for repelling his attack on one of our favourite implements the CULTIVATOR, which if he has not absolutely condemned, he has at least "dam'd with faint praise." Under various circumstances, we look upon the cultivator, as one of the most efficient instruments in the hands of the skilful farmer. The case, wherein we have ourselves used it with admirable advantage and effect, is for pulverising stiff cloddy ground. It is often found impracticable to pulverize such land completely with the plough alone, in which case, the farmer should have his roller and oxen at hand. The clods not broken by the roller will be pressed and fixed fast within the finer earth surrounding them.—The Cultivator follows them immediately after the roller, and every clod is completely reduced, leaving the whole field smooth, and in beautiful order for any subsequent use. The teeth of the Cultivator should be made; the bottom about the shape and size of a colt's foot,

2d.—In such situations as above alluded to when the ground is well pulverized, it is my opinion, that seeding can be effected, with a harrow as speedily and more perfectly than in any other way. That process leaves the ground just about as uneven as is necessary in order to prevent the winter from injuring the crop.

The mode of using the Shovel Plough, among corn, so far as I can learn, has been nearly the same every where, but the shovel being made short, very wide, renders it impossible to work the ground as deep as is necessary. I think not exceeding more than from two to three or four inches, but although so shallow, it will form quite a ridge or hill about the corn, whilst the last furrow makes quite a large opening in the middle (or between the rows;) the consequence is, that the ridge, or hill, has a considerable tendency to conduct the water away from about the roots of the corn, and getting into the large middle furrow, finds its way out of the field, thus, oftentimes quite a refreshing shower will pass off from a corn field, especially if the ground lies inclined, without doing the crop much good. Again, a very heavy shower, where the ground is worked so shallow and fine, will fill it so full of water, that nearly all will run off together. This is a grievous circumstance; first, it impoverishes the ground, and renders it more subject to drought, and difficult to work; secondly, the crop is left in distress; for where the ground lies inclined, the pulverised earth washes off, and where it lies low and flat, it washes on, so that the crop suffers in either situation. Believing this to be the most common mode of using the Shovel Plough, I do not wonder, that in some sections of the country, it should be so little regarded as a useful article, and in others not be used at all, adventurers from these districts not thinking them worth introducing into their respective neighbourhoods.—Having seen their effects as above described, they of course could not recommend their use.

From experience and observation, I have reason to believe, that there has been an improvement made in the construction of the Shovel Plough, which is worthy of the attention of those, who are in the habit of using them, and that also would promote their introduction, where they have not been used at all; it is simply to reduce the width of the shovel; instead of sixteen inches in width, make them only six, and then endeavour to work the ground as much deeper, as the same strength applied is able to effect. It will be found, that the difference in depth will be very considerable, whilst in width it will be less than could well be imagined. I think that between tolerably wide rows of corn, it would only need one furrow more, and then the ground would be worked so much more effectually, that the crop would suffer by less from drought, the ground less liable to wash, more thoroughly cleansed of weeds, and above all, produce a much better crop, besides leaving the land better prepared for the after crop of small grain and clover (or grass.)

In recommending such a material alteration, I am aware of the strength and force of argument necessary, to convince those who have been in the habit of using them in their common form, that narrower ones are better: for here also I can speak from experience. When I first had a shovel made for a plough, I thought there might be as much convenience in using the middle size, and had nine made fourteen inches in width, and I used such for several years; but becoming dissatisfied with their operations, I inquired for a remedy, and was told that some of my acquaintances were using those that were much narrower, that some had been used, which were only four and a half inches wide and that they worked satisfactorily, but it was in very stony ground. However, I gave but little credit to the report, being satisfied in my mind, that a shovel of that width would not be worth having in any situation. But after some

the blade inclining like the coulter of a plough, sharpened and steeled and fastened over the top of the frame by means of a screw cut on the top of each tooth.

reflection on the subject, I had one made only ten inches wide, used it—and was much better pleased with it, than with any I had seen before. I then concluded to try one only six inches wide, which when put in operation, pleased me very well; such I have continued to use ever since, and I now like them the best, either for pulverizing the ground, attending to a crop or seeding grain.

Extracts from a Compendious Dictionary of the Veterinary Art.

[Continued from No. 24—p. 188.]

BACK-GALLED. Accidents of this kind ought never to occur, because it is almost always a consequence of inattention in those who have the management of the saddle or harness. Before a journey is undertaken, therefore, it is necessary to examine carefully the saddle or harness, and repeat the examination from time to time until the journey is finished. When any swelling or tenderness is observed about the horse's back or shoulder, let it be frequently bathed with the following lotion:

Goulard's Extract, half an ounce.

Vinegar, four ounces.

Water one pint.—Mix.

If the skin has been so bruised as to cause a sitfast or hard dark-coloured scab, let it be rubbed twice or three times a day with camphorated mercurial ointment, until it is loosened sufficiently to be taken off; some force is generally required to effect this, and the knife is often found necessary to separate some parts. When the sitfast is removed, dress the sore twice or three times with a mixture of burnt alum and red precipitate, and afterward with the following ointment:

Saturnine ointment, four ounces.

Finely powdered alum, one ounce.—Mix.

No application can be of service in galled back, if the pressure which originally produced it is continued; in such cases troublesome abscesses may form and it is often from such cruel negligence that fistula in the withers is produced.

BACK-RAKING. An operation so called by farriers, which consists in introducing the hand into the horses' fundament, to draw off any hard dung that may be in the gut. The operation is sometimes required to ascertain the state of the dung, in order to determine whether laxative medicine is necessary or not. When the bladder is distended with urine, it may be distinctly felt in this way. See *Bladder, Diseases of*.

BALL. The best form in which medicine can be given to the horse. A little practice will enable the groom to give balls without the assistance of the baling iron; though there are cases, perhaps in which this instrument is necessary. Balls, unless composed of very heavy ingredients, such as antimony, should not exceed one ounce and a half in weight, and their form should be more oblong than that of an egg. Syrup is usually directed for forming powders into balls, but molasses will do just as well. Powders that do not cohere readily require strong mucilage for this purpose; and resinous powders require balsams, turpentine, or soap.

When many balls are made at one time, great care should be taken in mixing the powders before the mass is formed, that each ball may contain an equal proportion of the several ingredients. The prescriptions for cordial, alterative, purgative, and other balls, will be found under their respective heads.

BANDAGE. Strips of linen or flannel about three or four inches wide. They are generally employed for habitual swelling of the legs, and sometimes as a palliative in windgalls, and weakness of the fetlock joints. The length of the bandage must be determined by the part to which it is to be applied; for the legs it ought not to be less than two yards. The efficacy of bandages depends much upon their being properly applied; the first turn of the bandage should be downward, and immediately under the fetlock joint; from thence, passing obliquely upward over the front

of the joint, it is brought down again in the form of a figure of eight, and then continued up the leg. A bandage should be moderately tight, so as to support the joint, without impeding the circulation, and causing swelling above the bandage; it should be so applied also, as to press equally on every part. Adhesive plasters are sometimes employed as bandages. See *Charges*.

BATHING. Both cold and warm bathing have been tried without effect in locked jaw. Cold bathing, or making a horse swim in a river or in salt-water, has been recommended as a remedy in shoulder strain, but I have never known it to do any good. It may be worth while, however, to give it a trial in lamenesses that have resisted other remedies, and are supposed to depend on some injury of the shoulder; I have heard that in one instance it was employed with success by Mr. Morecroft, in a case of locked jaw.

BAY BERRIES are sometimes used in horse medicine as an aromatic stimulant. The dose from one ounce to two ounces. They are an ingredient in the celebrated stomachic powder of farriers, named Diapente.

BELLADONNA, or Deadly Nightshade. A powerful narcotic, rarely used in veterinary practice, except in certain diseases of the eye, the pupil of which it has the extraordinary power of dilating in a considerable degree, when a small quantity is placed between or under the lids. See *Eye*.

BILE, or GALL. A saponaceous dark-coloured fluid of an intensely bitter taste; it is secreted or formed by the liver, from which it is conveyed by the biliary duct to the intestines. The bile serves as a constant stimulus to the intestines, thereby promoting in them that kind of motion termed peristaltic, by which the useless parts of the food are propelled through them and evacuated. See *Liver, Digestion, Nutrition*.

BISHOPPING. When the artificial marks are made in the horse's teeth, to make him appear younger than he really is, he is said to be bishopped, and the operation is termed bishopping; it consists in making a small orifice with a graver in each of the corner teeth, resembling in situation and form as nearly as possible the natural marks, which are found in these teeth when a horse is six, or between six and seven years old; they are then touched with a small hot iron to imitate the brown colour of the natural mark. However dexterously this operation may be performed, it is easily discovered by a person accustomed to examine the teeth of horses; and such as have not had this advantage, may observe a want of correspondence in the state of the tusks, or the marks of the upper teeth; and if the horse's age is considerable, it may be known by his general appearance, by gray hairs over the eyes and about the forehead, by the teeth being much longer than in young horses, and approaching more to the horizontal position. In black horses, I have known the gray hairs concealed by means of black powder, which was discovered by passing the hand over the eyes. See *Age*.

BITES, VENOMOUS. The bite of a viper is sometimes attended not only with considerable swelling about the wounded part, but with symptoms of fever or general indisposition also. A great variety of remedies have been prescribed by writers on farriery, beginning with old Mascal, whose book is dated 1633. He advises, after bleeding in the roof of the mouth, to "take a young cock, (some take but a pigeon,) and cleaving it in the midst, clap it hot to the wound." The renowned Gervase Markham advises the same; and adds, some farriers apply hogs' dung to the part. As soon as the accident is perceived, a moderate quantity of blood is to be drawn from the neck vein, about one ounce of nitre given morning and evening, and the swollen parts almost constantly fomented with a decoction of bitter herbs. Should the swelling continue, let the part be well rubbed with the following liniment.

Soap liniment, two ounces

Olive oil, one ounce and a half.

Liquid ammonia, half an ounce.—Mix.

Solleysel informs us, that "there are certain venomous creatures resembling mice, which breed in rotten straw, the bitings of which are fatal to horses and dogs, and when cats eat them they die in a kind of consumption." These formidable mice are termed Shrew or Shrove Mice by old farmers. Mr John Lawrence affirms he has "often seen them; that they have a snout like a hog, that their bite is venomous, and though a cat will kill, he never eats them."

[To be continued]

FROM THE AURORA

American Manufactures.

An adjourned meeting of the citizens of the city and county of Philadelphia, friendly to American manufactures, was held in the State House yard, on Saturday afternoon, the fourth of September:

Mathew Lawler, Esq. in the chair.

Condy Raguet, Secretary.

The minutes of the last meeting having been read, the committee appointed to prepare a memorial to congress, reported the same, and it was unanimously adopted. Whereupon it was *Resolved*, That one thousand copies of the Memorial be printed for distribution; that the printers of newspapers throughout the United States be requested to re-publish it; and that a committee of five persons, from each ward of the city, and each district of the county, be appointed to procure signatures.

Resolved, That the chairman appoint a committee of seven persons, to make the appointments for the ward and district committees.

This duty having been performed the committee appointed to procure information relative to the state of the manufactures in the city and precincts, made a report.

The committee appointed on the 21st of August, to report a plan for the formation of a Society for the promotion of American Manufactures, reported the following:

Constitution of the Pennsylvania Society for the Encouragement of American Manufactures.

PREAMBLE.

The wealth of a nation is derived from the labour of the people who compose it; and, as the general revenue will be great or small according to the quantity of productive industry that is set in motion, it is of the first importance, that the public prosperity be not suffered to languish for the want of timely support. Amongst the means of producing the most profitable results, the protection of our declining manufactures, with the steady employment of that portion of our population, who, by their habits and dispositions, are unqualified for agricultural or commercial pursuits, stands conspicuous. But manufacturers, to withstand the forced competition of foreign countries, must be patronized, in their infancy, by the laws or by the patriotic feelings of the people; and perhaps no better mode is present, to give them duration and stability, than a voluntary engagement, on the part of our citizens to give a preference in their expenditures, to the products of each other's labour. By such a measure, they will strengthen the bonds of the social compact—render their country truly independent; and by standing in the mutual relation of producers and consumers, they can apportion, with a regularity hitherto impracticable, the supply to the demand, and increase them both to any reasonable extent, which their comforts may require.

With the view of hastening the adoption of a policy, upon which the destinies of a great por-

tion of our fellow citizens must hereafter depend, and in anticipation of measures, which, it is confidently hoped, will be pursued at no distant day, by the government, a number of the citizens of the city and county of Philadelphia have formed an association, which has adopted for its government the following constitution:

Article I. This association shall be called "The Pennsylvania Society for the Encouragement of American Manufactures;" and shall consist of such persons residing within the state of Pennsylvania, as shall subscribe these articles, and pay to the Treasurer the sum of fifty cents.

Art. II. The officers of the Society shall be a President, two Vice-Presidents, a Treasurer, and Secretary, who shall be elected annually on the first Monday in the month of October, between the hours of four and eight, P. M. at the county court-house, or such other place as shall be designated by the Society. There shall also be elected at the same time and place, a standing committee, to consist of thirty members, who in conjunction with the officers above mentioned shall constitute "A Board of Manufactures," with power to appoint from their number, committees for the purpose of correspondence, for the collection of information, and for such other objects as shall be calculated to promote the intentions of the association.

Art. III. The stated meetings of the Society shall be held quarterly, viz: on the first Monday of the months of January, April, July, and October, at such places as shall be established by resolution. Special meetings shall also be called by the President, whenever he may deem it expedient, or when requested to do so by any twelve members. Three day's notice for the meetings shall be given in at least four daily papers. Fifteen members shall constitute a quorum.

Art. IV. Every member of this association pledges himself to give a preference to American manufactures, over the manufactures of any foreign nation, whenever they can be procured, of a good quality and at a fair price.

Art. V. The Board of Manufactures shall exhibit to the Society, whenever called upon so to do, after reasonable notice, a statement of their proceedings together with such other information, as may be required, relative to the objects of the association.

Art. VI. No money shall be drawn from the Treasury, but by an order of the presiding officer of a general meeting, in conformity to a resolution of such meeting.

Art. VII. The Society may establish by-laws for its government, and may make any alteration or amendment to this constitution, by a concurrence of a majority of the members present at a stated meeting; such alteration or amendment having been proposed at a previous stated meeting.

Whereupon it was, on motion, *Resolved*, That the same be adopted, and that the ward and district committees appointed to procure signatures to the memorial, be also instructed to obtain subscribers to the same.

Resolved, That the thanks of this meeting be presented to the chairman and secretary, for their attention to the duties of their respective offices; and to the committees appointed at the last meeting, respectively, for the zeal and ability with which they have attended to the duties assigned them.

Resolved, That the proceedings of this meeting be published in all the papers of the city and county of Philadelphia.

Resolved, That this meeting adjourn, to meet at the county court-house, on Saturday the 25th September, at 4 o'clock P. M. to hear the further report of the committee appointed to procure information relative to the state of manufactures.

MATHEW LAWLER, Chairman,

CONDY RAGUET, Secretary.

From the Massachusetts Agricultural Journal
A PROFITABLE DAIRY

It may appear to some of our readers a little singular, that we should have requested Major Wheeler to furnish an account of the produce of his cows for publication. Those who have seen in our last number, the account of the produce of an English cow, amounting to 600 lbs of butter in a year, and of the Oakes, or Drovers Cow, whose produce was 500, may be disposed to think little of Mr. Wheeler's statement. But the trustees thought it would be of more consequence, and would be more likely to produce a spirit of emulation, to publish an account of a moderate experiment, within the reach of every farmer, than merely to exhibit a few examples of most uncommon occurrence. The cases above referred to, were almost prodigies, and were inserted rather to show what very extraordinary cows, with still more extraordinary feed, are capable of producing. They have some tendency to prove the importance of getting a good breed of cows, and of being more liberal in the manner of feeding them.

Mr. Wheeler's case is of another sort. It is an exhibition of profit from the ordinary mode of treatment, except that Mr. Wheeler appears to have been uncommonly attentive to manuring his pasture land, having for many years, successively dressed it with plaster of Paris.

To show that Mr. Wheeler's product is uncommon for our country, we shall here insert the answers which have been repeatedly made to the Society's question. How much butter is annually made from a cow, and how much skim-milk cheese from the same cow?

From Brooklyn the answer was 70 pounds of butter and 50 pounds of skim-milk cheese

From the Middlesex and Sturbridge Societies, 70 weight of butter and as much weight of cheese.

From the Shrewsbury U. Agricultural Society, that a medium cow will give 100 pounds of butter, and 150 weight of skim-milk cheese.

From Newbury Agricultural Society, about 120 weight of each.

From Vassalborough Agricultural Society, about 100 weight of butter.

The Rev. Mr. Packard of Marlborough, made an answer to the question, which we wish was pasted up in every dairy in the state: "The last year, said he, (1799) three cows in this town produced 278 pounds of butter. If their calves had been taken from them at a week old, they would have made 451 pounds of butter. Those three cows were a more productive dairy than six usually are, with ordinary feed. Farmers egregiously mistake, when they overstock their farms. Were dairies always estimated by the *pails of milk* they produced, instead of the number of cows, many farmers' wives, instead of asking their husband to buy another cow, would urge him to *sell two* to enrich the dairy.

In this sentiment, the Trustees are fully of accord with Mr. Packard; and they earnestly desire to see the cows better kept, which will soon improve their quality.

It will be seen by this exhibit, that Major Wheeler's product was very far above the average, and well worthy of notice.]

FRAMINGHAM, Dec. 22, 1817.

DEAR SIR: Yours of the 18th inst. came to hand, wherein you wish information respecting my dairy. Last spring I had six cows, and the latter end of May I killed off the calves, and sold them at eight

dollars and fifty cents each, making \$51 The latter end of June, I bought a small cow and calf; after keeping the calf 3 1-2 weeks, sold the calf for ten dollars.

During the months, commencing the latter end of May and ending in November, which is six months, I made 941 1-2 lbs. of butter, which our marketer returned, on an average, 27 cents per lb. which amounts to the sum of 254 20 In the same time I made 1300 pounds of skim milk cheese, which I sold at 6 1-4 cents per pound, making 84 50

Total - - - - \$99 70

Further account. In the month of December, I gathered cream enough to have made fifty weight of butter; but for want of knowledge in preparing the cream in cold weather, and of much labour lost, could not make it into butter, and had to make other use of the cream. The above number of cows, with one large yoke of oxen, were on about eighteen acres of pasturing until after we had done our haying, and the feed had grown from the mowing. The pasture is land where I have pastured for several years, and excepting the two last years, have made free use of plaster, say about three bushels to an acre, three acres of which is low and cold, and produced but little feed. I am, &c.

ABNER WHEELER.

R. SULLIVAN, Esq.

FROM THE PLOUGH BOY.

FATTING CATTLE.

MR. HOMESPOUN,

I have lately read an essay of Mr. LANDON, of Connecticut, on what he deems the cheapest method of preparing cattle for the stall, the substance of which is here given.

In the winter of 1817, Mr. L. fattened an ox and a heifer, in a way that he found cheaper than even common keeping. He fattened the heifer first. Her food for the purpose was chopped straw, scalded and seasoned with salt, to which was added a little meal of Indian corn and oats, and a small allowance of oil cake, or boiled flax-seed—the whole mixed up so as to form a mash. Of this about three pecks was given at a time. In fattening the heifer, she only ate about a bushel of boiled flax-seed. Some boiled hay was also given her. The ox was afterwards fattened in pretty much the same manner, as nearly as we are able to understand the report of the two cases: for Mr. L. appears to have been more of an adept in fattening, than in describing the manner with clearness and precision. According to his account, however, it appears that his profits in pursuing this mode was very uncommon, and he says that the fattening of these cattle afforded him more clear profit, than he had derived from all the cattle he had ever before fattened. It would seem, in deed, that he considerably more than doubled the price of his cattle in fattening them, and that the expense of it was very inconsiderable.

This being the usual time for commencing the business of fattening for the winter store, I have thought proper to exhibit the plan of Mr. L. from a belief that it is excellently adapted for fattening cattle with the least expense. It will readily be perceived, however, that the fall pasture is calculated to obviate the expense of using boiled hay; but I have no doubt that when good hay is steam-boiled, which may be done with a little expense, it is just as nutritious for cattle as when in its green state.

A PLOUGH BOY.

[Communicated for the Federal Gazette.]

Extract of a letter dated

LIVERPOOL, 31st July.

The import of Cotton into the kingdom from the 1st January to the 24th July, was—

From the U. States and N. Orleans	167,599
Brazil	68,579
West Indies	22,872
East Indies	130,255
	399,305

The stock of Cotton in the kingdom on the 1st instant, was computed to be—

Sea Island	7,300
Uplands	55,450
New Orleans	20,103
Brazils	39,751
West India	22,225
East India	259,988
	494,827

The stock on 1st July 1818, was

248,800

Showing an increase of bags 156,027—but this increase is almost entirely in East India Cotton.

Since the 1st inst. about 30,000 bags have been imported into the kingdom, and about the same quantity has been consumed—consequently the stock in the kingdom remains about the same as it was on the 1st instant, viz. 404,000 bags, but of this 8000 have been purchased by speculators during the present month.

The consumption of Cotton this year, we believe, has been greater than heretofore, and particularly of American cottons, owing in a great measure to the low prices of these descriptions having induced the manufacturers to make use of them in preference to East India cottons. This circumstance will tend to maintain the demand for Uplands, Orleans and Tennessees, and the low prices at which the manufactured article is now to be had, is likewise in favour of the present extended consumption, and probably may produce a further increase. It ought to be considered, however, that the very heavy stock of East India cottons will operate as some check upon any great advance in prices.

From the beginning of the year, the market continued depressed, and prices weekly declined until the end of last month, when confidence became in some measure restored, a demand for exportation took place, speculators appeared in the market, and prices have since been gradually advancing.

This week the demand has been extensive, and sales have been made at an improvement of 1-2d per lb. upon the prices of last week. We consider the improvement from the lowest point to be as follows: inferior qualities about 1-4 only—middling do. 1-2d & 1d; good do. about 1d & 1 1-2d—fine do. about 3d per lb.

The rainy and uncertain weather which we lately experienced, had the effect of producing a speculative demand for wheat and flour, and prices advanced a little; but the fine weather we have had for a week past, has checked the demand, and prices are again receding. The average prices of wheat for the two last weeks, being two of the six, which decide the opening of the ports) are only 74s and 74s 10d per quarter—from which it appears almost certain, that the ports will continue shut for the next three months after the 15th of August; but whether they will open subsequent to the expiration of that period, is a question that depends upon the result of the approaching harvest. The crops at

present look uncommonly well, and there certainly is every appearance of a productive harvest. Already it has commenced in the south, and if the present favourable weather should continue a fortnight, considerable progress will have been made in the southern counties.

The stock of tobacco here is about 6400 hhds. During the whole of the year, this article has been very heavy on the market, and prices have been gradually declining; but we are now inclined to think, they are about their lowest point, and though we do not look forward to any material improvement, yet we are of opinion, they will command a readier sale than they have done, particularly the finer qualities.

The stock of Carolina rice here is very moderate, and the demand is steady. By the late act, there is a reduction in the duty of 5s per cwt.

Of ashes, the stock is pretty heavy, and the demand is not brisk, but as the prices are moderate, we do not anticipate any material reduction.

The import of turpentine this year is 2000 bbls. less, and of tar 10,000 bbls. less than the import up to the period last year. The present prices of turpentine are about 4s per cwt. less than at that time, and those of tar are nearly the same. Both meet a ready sale at our quotations.

A very large quantity of quercitron bark was purchased some time ago on speculation, which still continues in the hands of the buyers; and thus a heavy stock remaining for consumption, the article is generally dull, and none but the fine qualities are saleable.

An act was passed the 2d inst. consolidating the duties on the importation of goods. The alteration is of little importance, excepting a reduction of 5s per cwt. in the duty on rice, and, that in place of 1d per lb. on cotton, the duty after the fifth of January next, will be 6 per cent. ad valorem.

We are respectfully,

Your most obedient servants,

HUGHES, DUNCAN & CO.

From the Massachusetts Agricultural Journal.

PRODUCT IN MEAT, TALLOW AND WOOL, OF A MERINO WETHER.

From Gorham Parsons, Esq. to the Corresponding Secretary.

Brighton, April 26th, 1816.

Dear Sir,—I have killed my full blood Merino wether, and the following are all the particulars respecting him.

He was yearned May 26, 1812.—His sire, my imported buck, Don Roderick—his dam, my imported ewe, Saragossa—emasculated June 8, 1812—ran with my flock without any extra feeding till December 19th last—was then put by himself for fattening, and fed on second crop hay, corn, oats, barley, and meal varied from time to time as best suited him. On the 23d inst. he was killed—weighed

alive 140 pounds—when dressed by the butcher, as follows, viz :

Rump hind quarter,	23 pounds.
Other hind quarter,	20 3-4
One fore quarter,	17 1-4
Other fore quarter.	16 1-4
	77 1-4
Rough tallow,	13
	90 1-4 lbs.
Pelt with fleece,	16
	106 1-4
Head, liver, heart, &c.	12
	118 1-4
Feet, intestines—the offal,	21 3-4
	140

1813, June 3d, he was shorn, fleece weighed 6 1-2, was sold to Dr. Tufts of Dudley, at 8s 6d. \$9 21

1814, May 13th, he was shorn, fleece weighed 8 3-4, was sold to E. Mathews, of New Braintree, at 12s. 17 50

1815, May 24th, he was shorn, fleece weighed 9 1-4, was sold to Thomas Bond & Co. of New Brookfield, at 6s 6d. 10 02

Cash received, \$36 75

1816, April 25th, pulled the wool which weighed 9lb. 13oz. and is very fine and clean, as per sample enclosed, and may be fairly estimated at 6s. 9 81

Meat and tallow at the present price, readily obtained for our native sheep, 90 1-4 lb. at 9d. 11 21

21 09

—\$57 82

Although I gave him as much as he would eat since December 19th last, yet he was a very small eater, and had a disposition to fat that I have never found in our native sheep, I feel very confident he was fatted on two thirds the quantity that would have been required for a native sheep of the same frame. He was examined before he was killed, and afterwards by many of our most reputable and discerning butchers, and by all pronounced the fattest sheep they had ever seen. The quality of the meat I feel satisfied will prove very superior.

Respectfully your very humble servant,
GORHAM PARSONS.

P. S.—The sample I enclose was taken from the shoulder, but except on the quarter there is very little difference; when alive his shape and general appearance were highly approved.

[Since the above was received, the mutton of Mr. Parson's wether has been pronounced by gentlemen who partook of it, to be of a much finer grain and better flavour than that

of the common sheep of our country—thus putting it in our power to combat, we hope with success, a prejudice generally prevalent, it is feared, among the farmers in this state. For a further confirmation of the value of this breed (whether of the pure blood or mixed,) for the butcher, we refer to the article in this publication at page 140.]

From Relf's Philadelphia Gazette, Sept. 2.

Mr. Relf—The Bank of the United States having assumed a position* which if they can legally defend, will no doubt be taken by other banks to the injury of the public, I send you a case decided in the circuit court of this district, before judges Washington and Peters, with this single observation, that if the resolution is persisted in, it will add a very serious evil to the trading interests of the community, and increase the catalogue of complaints, already too numerous, against that institution.

C. & Thomas Bullett, vs. President and Directors of the Bank of Pennsylvania. Circuit Court of the United States—third circuit and district of Pennsylvania.

Coram—Washington and Peters judges, at April session, 1818.

Case agreed—The plaintiffs being bona fide and for a valuable consideration possessed of certain notes issued by this bank, and having had occasion to remit money to Baltimore, cut them in halves, and in February, 1806, enclosed the half parts of said notes to their correspondents in Baltimore, which were duly received—shortly after they enclosed the remaining half parts in a letter to the same person, which letter with the enclosures was carefully deposited in the post office at Louisville in Kentucky, but the same with the enclosures have never come to the hands of the person to whom it was directed, nor has it, nor the said half parts of the notes been since heard of by the plaintiffs.

The plaintiffs offer to the defendants ample and satisfactory security to indemnify them against all claims, loss or injury, which may happen on account of the said half parts of the said notes. Question, If the defendants are bound to pay the whole or what part of said notes?

Hopkinson, for plaintiffs, contended that the defendants were once indebted to the plaintiffs in the full amount of said notes, and though one half is lost, yet evidence may be given of the loss, and plaintiffs are entitled to recover on such proofs as well as if they had the notes to produce—even profert may be dispensed with if the action stated the loss of the deed, and if the evidence support the allegation.

Marias 67, on bills, states, that if the bill be lost, the payee must proceed regularly to protest, which could only be required on the

* See the cashier's advertisement.

ground that on proving the loss he might recover against the acceptor or drawer.

Ingersoll, for defendants, answered that were the defendants to pay the whole on the evidence of the half parts which are produced they might be made liable to pay the other half whenever the other half parts appear.

Washington.—This inconvenience could not happen—it is stated that the plaintiffs were possessed legally of the notes, that they cut them and sent them by post in half parts, at separate times; then it is impossible that any other person could acquire such a possession of the half which never came to hand, as to entitle him to an action against the defendants, because should these half parts be offered in market by the person who found them to any third person, such third person taking them in payment, though for a valuable consideration, would not take them bona fide, because the very circumstance of their being but half parts, would be notice that the other half was in the hands of the true owner, or some person claiming under him, or at any rate he would take them under such circumstances as would subject him to every equity vested in any other person.

A note payable to bearer, passed by delivery to a bona fide purchaser, but if there be any other thing on the face of such note sufficient to awaken suspicion and to apprise the purchaser, that the person from whom he received it may not be the real owner, such third person takes the note subject to the right of such owner.

When half notes are brought to the bank the inquiry how they came to be mutilated, and whether it was done by the real owner is proper, and the bank has a right to be satisfied as to the fact. Being so satisfied, then it is impossible that any other person can be entitled to claim upon producing the other half parts.

In this case, the fair ownership of the plaintiffs and the loss being admitted, they are entitled to recover the whole.

Judgment accordingly.

Bullet
vs.
Bank of Pennsylvania. } Case agreed.

The following is the opinion that was delivered in this case by judge Washington:

In this case, it is the opinion of the court, that the plaintiffs are entitled to recover of the defendants the full amount of bank notes. The important facts agreed by the parties are—that the plaintiffs were at the time they divided the bank notes in question possessed of them bona fide and for a valuable consideration, that they enclosed the half parts in a letter to their correspondent, which came safe to hand, and are now in the custody of the plaintiffs—that the remaining half parts were subsequently enclosed in a letter to the same correspondent: and the letter with such enclosures put in the post office, but that the

same never came to the hands of the person to whom it was directed, nor has the said letter, nor the said half parts of the notes enclosed therein, been since heard of by the plaintiffs.

Upon the general principles of law, a man does not lose his right either to real or personal property, or to choses in action by losing evidences of it, such loss may be supplied by parole evidence, if sufficient to prove the loss and the contents of the paper, and provided such evidence be the best which the nature of the case will admit—this rule does not in general apply to bank notes, or to other instruments which pass by delivery only, for in such case the payer might be twice charged, were he to be made liable to any person but the one who produces the note or instrument. This, however, being the only reason for the exception, it is to be seen whether it is applicable to a case like the present.

When the half of a bank note is presented for payment, the payer may very properly require the holder to account for the mutilated state of the note, and to prove that he came fairly to the possession of it. If the latter have it in his power to satisfy the former that he was the fair bona fide holder of the entire note, and that during such his possession he divided it into two parts, the production of one of the parts would establish his right to the full amount of the note, because in such cases it would not happen that any third person could fairly acquire the possession of the other half part—For if he took it in the course of trade and for a valuable consideration, still he would take it with notice that the right to the money might be in the possessor of the other half, and would consequently be bound by every defence which could legally be made against the finder or robber. Such person takes the half part of the note, not on the credit of the payer, but of the person from whom he received it.

FROM BORDLEY'S HUSBANDRY.

1. Pottages, by Col. Paynter.

Officers' Mess.

Three pounds of the sticking piece of beef, or a part of a shin, or any coarse piece. Boil it in eleven quarts of water, two hours. Then add a pound of Scotch barley, and boil it four hours more, in which time add potatoes, six pounds, onions, half a pound, and some parsley, thyme or savory, pepper and salt, with other vegetables, and half a pound of bacon, may be added, the bacon cut into small bits. It gives three gallons of pottage. Boil it over a slow fire, to be thick. It satisfied twenty soldiers, without bread; the nature of the food not requiring any. Col. Paynter adds that the men in the barracks liked it very much; and the officers introduced it into their mess, and found it excellent. Its cost would be 30 cents, or 15 mills a man.

A preparative for Pottages. Paynter.

It may be applied as above, or be eaten in mess: an excellent dish. A pound of Scotch barley is boiled, and draining the water from it, is set to cool in an earthen pan. A pound of bacon is baked in two quarts of water. A few minutes before it is taken off the fire put in the boiled barley, when it will immediately fall to pieces, being a jelly whilst cold, and will suck up all the juices of the bacon, nearly. The remaining water is then poured off. A few onions or leeks should be boiled with the bacon and herbs. Season with pepper and salt. A pound of Scotch barley boiled four hours, and cooled in a pan, becomes a sort of jelly; which being put into boiling water, instantly falls to pieces. When the pound of barley is boiled, cooled, and coagulated, the coagulum weighs four pounds. This is an excellent nourishing food, seasoned with sugar, or made in a pottage.

Mr. Lettison then gives, from Dr. Johnson of Hassar Hospital, a number of chosen messes; the result of experiments on diet, made at the instance of Admiral Waldgrave, in 1795.

(To be continued.)

From the Boston Yankee.

RUM DRINKING.

I like old Dr. Franklin for this reason—he always spoke common sense, avoided vain flourishes of rhetoric, and addressed the understanding in preference to the passions. His calculations were curious, and generally spoke the truth. Truth in a plain dress, which becomes her best, does more towards the reformation of society, than all the eloquence that man is capable of generating. I have read many eloquent dissertations upon intemperance; but it appears to me, that if a thinking man will set himself down, count the cost, and look into the consequences of indulging in this evil habit, it will go farther towards effecting a reformation than all the eloquent addresses ever penned upon the subject.

Let us go upon a large scale, and take the whole United States into the calculation. I will suppose there are three millions of people in the country, who consume on an average, half a pint of ardent spirits per day—(this calculation is surely within bounds)—which will cost the consumer at least 10 cents: I mean upon the average. Let us admit this, and now for the calculation—3,000,000 at 10 cents per day each, is

\$300,000

Which will amount, in one month of 30 days, to

9,000,000

Multiply this sum by 12, and you will find that the population of this country expend in one year, for ardent spirits, the enormous sum of \$108,000,000

Yes—one hundred and eight millions of dollars for ardent spirits!—This truth is awful! The money expended for this baneful purpose would support all the poor houses in the country, and maintain the government besides, after deducting out of the revenue that which arises from the importation of ardent spirits.

THE FARMER.

BALTIMORE, FRIDAY, SEPTEMBER 17, 1849.

Agencies for this Paper.

We beg to be indulged with a few words on this subject—numerous friends have suggested the expediency of appointing particular Agents in different sections of the country—as a means of facilitating the procurement of Subscribers; with all thankfulness for the kindness of their motives, we must confess that we can see no inducement to depart from the rules we have laid down in this matter.

Any person desiring to subscribe, has only to put his \$4 in a sheet of paper—write the name of his Post Office and his own name and then send his letter by mail at our cost and risk—what can be easier? The file of papers will be immediately made up and sent to any part of the United States; or, if the person wishing to subscribe, prefers that course, he can make his payment to the neighbouring Post-Master—and on sending his receipt the paper will be forwarded; and any one whether Post-Master or not, who chooses to claim it, will be allowed a commission of *ten per cent.* on all moneys collected for subscription to this paper. What can be more simple or more easy of observance by those who choose to favour us with their patronage? A work of this sort must rely on its *solid continued utility*, rather than on importunate solicitation, for the number and punctuality of its patrons. Our subscribers thus far exceed our expectations, and as we much fear, our deserts.—They are of all States in the Union, of all sects, and parties—Gentlemen distinguished alike for their wealth, their practical knowledge and their public spirit.

We give below a list of the prices of most articles in the common market, and of the more bulky production of the country. It will be seen that in most cases the prices remain the same, as when these same articles were last enumerated. We have not heard of any sales of tobacco within the week; in the next number we may be able to state the price of it more particularly.

We shall occasionally publish, as we have done in this number, extracts of letters from Europe, to give a general view of the state of the market there, as respects most of the articles the growth and produce of our own country. In such cases, we shall take care that the extracts are *genuine*, written, as far as we can ascertain, by gentlemen of integrity to respectable merchants here, whose life and characters raise them far above the suspicion of trick and duplicity.

Current Prices of Country Produce, ascertained by actual Sales, within the last week.

Wheat, white, \$1 10 to 1 12; red do. \$1 04 to 1 08. Rye, 50 to 55 cents. Oats, 40 to 45 cents. Corn, 60 cents. Hay, per ton, \$18. Straw, \$13.

Butcher's beef, best pieces, 10 to 12 cts. Chickens, per dozen, \$2 to 2 50. Veal, per lb. 8 to 10 cents. Mutton, 6 to 8 cents. Salt beef, prime pieces, 6 to 10 cents. Pork, 8 to 10 cents. Eggs, per dozen, 12 to 18 cents. Butter, 25 to 37 cents. Potatoes, per peck, 37 to 50 cents. Onions, per peck, 37 to 50 cts.

It will be seen that this paper is not now printed by Mr. Ebenezer French, as heretofore—and, in order to prevent the idea of versatility, on his part, or of dissatisfaction on the part of the Editor, it may not be amiss to state, that the change is not attributable, in any degree, to either of these causes; it is altogether the result of the Editor's own private views, connected with his particular interests, and with the detail of which it would be impertinent to trouble his subscribers.

Advice to a Young Tradesman.

Written Anno 1748 by Dr. Franklin.

TO MY FRIEND A. B.

As you have desired it of me I write the following hints, which have been of service to me, and may, if observed, be so to you:

Remember that time is money. He that can earn ten shillings a day by his labour, and goes abroad, or sits idle one half of that day, though he spends but sixpence during his diversion or idleness, ought not to reckon that the only expense; he has really spent, or rather thrown away, five shillings besides.

Remember, that credit is money. If a man lets his money lie in my hands after it is due, he gives me the interest, or so much as I can make of it, during that time. This amounts to a considerable sum where a man has good and large credit, and makes good use of it.

Remember, that money is of a prolific generating nature. Money can beget money, and its offspring can beget more, and so on. Five shillings turned six, turned again it is seven and three-pence, and so on till it becomes a hundred pounds. The more there is of it the more it produces every turning, so that the profits rise quicker and quicker. He that kills a breeding sow, destroys all her offspring to the thousandth generation. He that murders a crown, destroys all that it might have produced, even scores of pounds.

Remember, that six pounds a year is but a groat a day. For this little sum (which may be daily wasted either in time or expense unperceived) a man of credit may, on his own security, have the constant possession and use of a hundred pounds. So much in stock, briskly turned by an industrious man, produces great advantage.

Remember this saying, "The good paymaster is lord of another man's purse." He that is known to pay punctually and exactly to the time he promises, may at any time, and on any occasion, raise all the money his friends can spare. This is something of great use. After industry and frugality, nothing contributes more to the raising of a young man in the world than punctuality and justice in all his dealings; therefore, never keep borrowed money an hour beyond the time you promised, lest a disappointment shut up your friend's purse for ever.

The most trifling actions that affect a man's credit, are to be regarded. The sound of your hammer at five in the morning, or nine at night, heard by a creditor, makes him easy six months longer; but if he sees you at a billiard table, or hears your voice at a tavern, when you should be at work, he sends for his money the next day, demands it before he can receive it in a lump.

It shows, besides, that you are mindful of what you owe: it makes you appear as careful as well as an honest man, and that still increases your credit.

Beware of thinking all your own that you possess, and of living accordingly. It is a mistake that many people who have credit fall into. To prevent this, keep an exact account for some time, both of your expenses and your income. If you take the pains at first to mention particulars, it will have this good effect: you will discover how wonderfully small trifling expenses mount up to large sums, and will discern what might have been, and may for the future be saved, without occasioning any great inconvenience.

In short, the way to wealth, if you desire it, is as plain as the way to market. It depends chiefly on

two words, industry and frugality; that is, was neither time nor money, but make the best use of both. Without industry and frugality nothing will do, and with them every thing. He that gets all he can honestly, and saves all he gets, (necessary expenses excepted) will certainly become rich—if that Being who governs the world, to whom all should look for a blessing on their honest endeavours, doth not, in his wise providence, otherwise determine.

[Franklin's Works.]

HEAVY WHEAT.

The beautiful white Wheat, noticed in our last, sent to this market by Trench Tilghman, Esq., of the Eastern Shore of Maryland, weighed 64 1-2 lbs the bushel.

Noble Undertaking.—A Boston paper describes an enterprise of an important and novel character, which is about to be effected near the town—it is the Boston and Roxbury mill-dam and represented as a solid road over a mile and a half of flats. It is to form a grand and noble avenue to the metropolis, and to afford many mill privileges. It was a project of the late ingenious Mr. Cotting, and is now on the eve of accomplishment, by an association of capitalists. This bold and magnificent work promises to promote private interests as well as extensive public good.

Expense of Drinking Spirits.—There is a man, says a writer in the Hampshire Gazette, well known to me, who, by computation, has been found, within the last thirty-two years, to have expended for ardent spirits, a sum, the principal and interest of which, amount to five thousand five hundred and twenty-four dollars sixty-two cents—more than twice the value of his present real estate. What is more surprising, this man is still living, and still continues the inordinate use of spirituous liquors. O tempora! O mores!

High Price of Books.—Few persons are aware that there once existed a law relative to limiting the price of books, viz: in an Act respecting copyright, of the eighth of Queen Ann. where it is enacted "That if any bookseller or printer shall, after the 25th of March, 1710, set a price as shall be conceived by any person to be high and unreasonable, he may make complaint to the Lord Chancellor, the Bishop of London, &c who have authority to call the publishers and to inquire the reason of the dearth of the book; and should they find it unreasonable, they can alter the price, and the publishers shall remunerate the person who laid the complaint, if any alteration should take place; and should any bookseller or printer sell or expose the book at a greater price than the one so fixed, they shall forfeit the sum of 5*l.* for every such book."

Government has just bought about ten millions acres of land of the Kickapoo Indians.

The Revolutions of Commerce.—The ship Midas, just arrived at Boston, in 144 days from China, among her cargo, brings 4 cases of *trilled flannels*, of China manufacture.

Chirurgical Society.

The members of the District Medical and Chirurgical Society of Baltimore, have it again in their power to assure their fellow citizens of the continued health of our city. No case of yellow fever has occurred to any member of this society, or any other practitioner of medicine, since their last report on the west side of Jones' Falls, which is not distinctly understood to have originated on the east.

They have also, the satisfaction to state, after the most vigilant attention to the subject, that the fever still continues free from any contagious quality whatever. The reports of the Board of Health show, that there are deaths from malignant fever occur-

ring daily west of the Falls, and yet in no case has the disease been communicated to the attendants. At the City Hospital, where the disease is accumulated in its worst stages, so far as we have been able to ascertain, no attendant or nurse has been infected.

They lament with the deepest regret that the fever is increasing at Fell's Point, accompanied by a mortality which as yet has not been arrested. They attribute in a great degree to patients not making early application for medical aid. They would therefore urge, by every motive which makes life desirable, all persons who have been exposed to the local causes of the fever, to make the earliest possible application for medical relief. After the first few hours of the fever have elapsed, the physician is often called to perform one of the most painful duties of his profession, to witness the rapid approach of death without the power of arresting it.

But when the proper means are resorted to early, they do not hesitate to declare, as their unanimous opinion, that the yellow fever is under the dominion of medicine.

ASHTON ALEXANDER M D. Pres't.

JOHN B. CALDWELL, M D. Sec'y.

Advertisements, which are, in their nature and objects suited to a paper of this sort, such as the sales of lands, seed, live stock, implements of husbandry, new inventions, &c. &c will be inserted once only, at the rate of \$1 per square, to be paid in advance. The very extensive circulation of the paper among landed men, throughout the United States, make it an eligible medium for giving such public notices, and one publication is as good as forty, unless in cases where the law prescribes a greater number of times.

PETERSBURG Sept. 13, 1819.

Extract.—Will you inquire through the American Farmer, into the deleterious effects of Hemlock on the constitution of the horse, when eaten with his hay. If it be innocent, let the public be assured of it—if injurious, warn them of their danger. In this section of country, every new made meadow throws up considerable quantities of it, and it requires several years to eradicate it. A few days since, a valuable horse of mine was curiously affected, and I despair of saving his life. Upon inquiring into the cause, we could only trace it to the hemlock,* some of which was in the hay that the horse had been eating.

THEO. FIELD.

* The Editor will give a drawing and the medical virtues of the hemlock in an early paper.

[COMMUNICATED FOR PUBLICATION.]

Exhibition of fine Horses and "their premiums."

Easton Jockey Club Races.

Will be run for on Wednesday, the 6th day of October, the first day's Jockey Club Purse of the whole subscription of the members, the four mile heats.

On Thursday, the 7th day of October, the Town's Purse of all the subscription money for that purse with ten per cent entrance by members, and twenty per cent. entrance by gentlemen not members, to be added to the purse, the three mile heats.

On Friday, the Jockey Club Colt's Purse of all the gate money of the three days, the two mile heats.

JESSE SHEFFER, Sec'y.

The owners of fine horses are invited—"umbium quo."

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,
BALTIMORE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolos." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, September 24, 1849.

NUM. 26.

AGRICULTURE.

On the best means of applying Plaster of Paris, and of recruiting exhausted land, by Joshua Delaplane, Esq. of Frederick county, Maryland.

(Communicated for re-publication in the American Farmer.)

The information you ask on the use of plaster of Paris, the best method of improving exhausted lands, the best mode of making manure, of preserving stock through the winter, as well as the best ploughs, shall be carefully given, according to my experience. Your first inquiry relates to the best mode of using plaster. I would recommend it in all cases to be scattered and harrowed in with the grain of all kinds; this is more absolutely necessary when the land is exhausted, as it aids and nourishes the sprout immediately on its coming up, when it stands most in need. Some roll the grain in plaster. My plan has been, for one hand to sow the grain, while another follows to scatter the plaster, at the rate of one bushel to the acre. Where there are two or three harrows, it requires two hands; but with one harrow, a single person is sufficient for both operations, as he would first sow the grain and then the plaster. On winter grain I would repeat another bushel per acre, the last of February, or the first of March; this would not be necessary after the first year, or after your lands were once plastered; then only sow plaster with the grain. I would recommend harrowing in every kind of grain, and be sure to have your lands harrowed the first time, the way it was ploughed; this will level your ploughing, whereas if you harrow cross ways, it turns up your furrows. It is not necessary to put grain in deep; as a proof, put in some grain six inches deep; it will come up after two or three weeks; examine and you will find the main root, from which it took its growth, gone, and new roots near the surface of the earth succeed; it only requires to be covered. Rye is the best crop to improve land, and at the same time to raise clover. Clover seed ought to be sowed on the rye in February. Rye is the most valuable to raise on exhausted land; its growth is rapid in the spring, secures the clover from the scorching sun, shades the earth, and acts so as to nourish and replenish the land; it is the most certain crop, and as it makes more straw than any other grain, the farmer is enabled to make more and the best

manure. By proper management, this grain can be used in every shape, by having it properly ground, and the best flour separated, it will make good bread, and the balance will make good feed for any kind of stock. It is the best grain for work horses, and is valuable to fatten hogs, but upon this suggestion I expect a host of prejudices against me; experience however has taught me not to give way. For example, say you have a pen of hogs with water running through it, to which you give every day one barrel of corn; in this pen you will lose all the manure, as it will be carried off by every rain; you have another pen upon dry land, well littered with long rye straw; after every rain the hogs will cut it up short and make their beds neat, if you have not straw, leaves will be an excellent substitute; let the number of hogs be equal in both pens; to those in the second pen, feed only half a barrel of corn and two bushels of chopt rye, have two hogsheds near your pen, into which put every day the two bushels of chopt rye, and have them filled up with water and stirred, let it stand twenty-four hours before used, give this to the hogs instead of water; having two hogsheds, by the time one is used the other will be fit; keep up the hogs in both pens the same time, and when killed, you will find those in the dry pen will weigh ten per cent. heavier, and if I had my choice of the pork I should prefer it; besides, the manure will be valuable the ensuing year. You can safely winter your sheep on your rye field without the least injury to it—and with the greatest advantage to your sheep—I generally let my sheep run on my rye fields until the last of March. I have a field which contains 20 acres, which 10 years ago would not produce more than 10 bushels of corn per acre. I ploughed it up and sowed it with rye and one bushel of plaster per acre; in February I sowed it with clover seed and one bushel of plaster; at harvest I cut 16 bushels of rye per acre; the spring following I sowed it again with one bushel of plaster and mowed that season two tons of hay to the acre, and made 33 bushels of clover seed from the second crop; the spring following I sowed it again, with plaster as before, and cut that year 2 1-2 tons of hay—I then ploughed the second crop and sowed it with wheat, which produced 23 bushels per acre. I then ploughed up the wheat stubble and sowed with rye, which produced me 25 bush-

els per acre; the spring following I gave it a dressing of manure, ploughed it up and planted it in corn, first rolling the seed in plaster, and when it got up about six inches high, I sowed it broad cast with plaster at the rate of one bushel per acre, off which I gathered 123 barrels of corn (equal to 30 bushels per acre,) the next spring I sowed it with spring barley, (oats would equally prosper) which yielded 32 bushels per acre, which I sold in Georgetown at 150 cts. per bushel; after cutting the barley, I ploughed down the stubble, and sowed it with wheat at the rate of 1 1-2 bushels per acre; and one bushel of plaster. This crop yielded me 33 1 2 bushels per acre; I then ploughed down my stubble and sowed rye, which I cut last summer which is now in the straw, and from it I think I shall get at least 123 barrels or at the rate of 30 bushels per acre; I sowed it last February with clover seed, and intend mowing the ensuing season.—I have made this statement to prove, that the only sure mode of improving land, is by a regular routine of cropping. You will observe, I did not sow this field every year with plaster, nor is it by necessary; lands once well plastered do not need it, as its virtue will not be lost in less than seven years; owing to the scarcity and high price of plaster, for the last two years, I may say I have used none, and I do not believe I suffered for the want of it. Corn cropping ought to be avoided as much as possible upon exhausted lands, unless they become soddy, then they may be worked with advantage, both to the soil and cultivation. Plough up the sod completely in April, harrow it well the same way that it is ploughed, then furrow it quite shallow, barely to make a furrow to plant your corn—be sure not to disturb the bottom of your sod; when the corn gets up about six inches, harrow it well and plough quite shallow; your corn will not look so promising at first, until the roots penetrate the sod, it will then grow rapidly and will not suffer from drought; as the sod if left down will retain the moisture: all the work on your corn field should be done before harvest, and in no case should corn be followed with winter grain; if you can give your corn ground a dressing of manure, I would sow it with oats, then plough up the stubble, then sow rye, then clover seed, let the clover remain a two years, which would be

making four crops in six years. If you have not manure to dress your corn ground, fallow it the next year for wheat, plough down the stubble, sow rye, then clover seed; be sure never to plough your stubble but once, leaving all covered you possibly can, harrow in all your grain as I have before observed; when you plough clover for wheat, be sure to turn it down, as neatly as possible, the seed turned under will lie the first year without sprouting—this ought to be done between the middle of August and September; after harvest plough down your wheat stubble, sow rye, and the clover seed, turned under the year before, by being brought to the surface, will come up so thick as to need little seed, if any at all. In short, when the ground is well set with clover, you will scarcely ever be compelled to sow more seed; my plan has been to raise a crop of wheat and rye, then let it lie one year in clover, then wheat and rye again, that is to make two crops every two years on the same land, except when I put corn and manure, then I generally take four or five crops running before I give it rest—and would in no case advise land to lie in clover more than one or two years. The best mode of saving manure when it is scarce, and can only be applied to the corn hill, is to keep it in a close heap, to become well rotted; but if you can save enough to give the ground a top dressing, I would prefer hauling it out in the raw state, and let it pass through putrefaction where it is to act; in this way your land will receive the whole benefit; if it is left in the barnyard, every rain will wash away the best of the substance.

I have for some years given my fields a top dressing in the poorest places, whenever the grounds were sufficiently frozen to go on them without injury.

Manure may be called the farmer's gold mine, and ought to be saved in every shape and manner. To increase the quantity, your stables should be kept well littered with straw; to have stables for your stock is equally important to preserve them during the winter, and to accumulate manure; with such protection, good hay will keep them in good order. A farmer should always proportion his stock to his means for subsisting them, and never overstock himself—as one horse well fed will do more work than two badly fed; one cow well fed will give more milk than two badly fed, and one good sheep more wool than two bad ones.—In fine, nothing which a farmer keeps upon his farm, from his horse to his dog, should suffer for food—to make his farm profitable, he should make a little of every kind to sell; he should not fix his mind upon one object of profit alone—Corn or hay, I would not attempt to make for sale upon exhausted lands; after they are restored you may add the sale of

corn and hay to a small extent. A farmer should be certain to have his work done in a proper manner, his ploughing finished and grain sowed in due time and season. When a farmer gets his lands in proper cultivation, he ought to make 1000 bushels of grain to the hand, taking into calculation every thing he raises; in harvest and hay making, he will be compelled to hire hands to save the crop.—During the last seven years I have worked five hands the year round, and my crops (including every kind of grain) have averaged five thousand bushels; this may be doubted; the reader may judge as he pleases, but I am bound to state the truth—our landholders who have most in their power, trust too much to others; they should trust to their own judgment, and see that their plans are properly executed. The best ploughs for land clear of stone are made by Chenoweth of Baltimore; if the land is stony and rough I would recommend Ogle's. On lands that have not been clovered, I would sow one gallon of clover seed per acre, which ought to be done on rye in February—one and a half bushels of wheat, the last week in September or the first week in October—one bushel of rye the 2d or 3d week in September—two bushels of barley or oats as soon as the spring will admit. I have been thus full in giving my opinion: you can adopt as you may think advisable, should any thing I have said prove of advantage, I shall feel myself well awarded.

FROM SINGLAI'S CODE OF AGRICULTURE. LIVE STOCK.

By far the largest proportion of the territory of almost every country, is devoted to the breeding and support of live stock. In early ages, these were the only criterion of wealth. They became of less consequence, when the culture of grain was first introduced; but their importance afterwards, as the instruments of cultivation, as the means of supplying a large proportion of our food, and as furnishing a variety of our most essential accommodations, combine to render this branch of the inquiry, peculiarly interesting. In discussing this subject, it is only proposed to offer a few general remarks. 1. On the most desirable properties of live stock; 2. On the principles of improved breeding; and, 3. On the management of stock. To enter fully into details regarding these particulars, would require a volume of no inconsiderable dimensions.

1. On the most desirable properties of live stock.

Under the general term *live stock*, are comprehended the various sorts of domesticated animals, which are employed by man as instruments, for converting to his use, either by labour or otherwise, those productions of the soil, which are not immediately applicable to supply his wants in their natural state. Bakewell expressed the same idea, when he described live stock as machines, for converting herbage and other food for animals into money. But money, in fact, is only the sign of wealth, while live stock are real riches.

The most desirable properties of live stock

general, may be considered under the following heads 1. size; 2. form; 3. early maturity; 4. hardness of constitution; and, 5. prolific quality; to which may be added, with regard to those sorts which are destined for food; 6. a tendency to grow; 7 a disposition to fatten; and 8, lightness of offal.

1. *Size*.—Before the improvements introduced by Bakewell, the value of an animal was entirely judged of by its bulk; and if a great size could be obtained, more regard was paid to the price the animal ultimately fetched, than to the cost of its food. Of late, since breeders began to calculate with more precision, small or moderate sized animals have been generally preferred, for the following reasons:

1. Small sized animals are more easily kept; they thrive on shorter herbage, and are thence more profitable. 2. Their meat is finer grained, produces richer gravy, has a superiour flavour, and is commonly more nicely marbled, or veined with fat. 3. Large animals are not so well calculated for general consumption, as the moderate sized, particularly in hot weather. 4. Large animals poach pastures more than small ones. 5. They are not so active, require more rest, and collect their food with more labour. 6. Small cows of the true dairy breeds, give proportionately more milk than large ones. 7. Small cattle may be fattened on grass solely, of even moderate quality; whereas the large require the richest pastures, or to be stall-fed, the expense of which exhausts the profit of the farmer. 8. It is much easier to procure well-shaped and kindly-feeding stock of a small size, than of a large one. 9. Small sized cattle may be kept by many persons, who cannot afford either to purchase or to maintain large ones; and by whom the loss, if any accident should happen to them, can be more easily borne. 10. The small sized sell better; for a butcher will give more money for two oxen of twelve stone each per quarter, than for one of twenty-four stone.

In favour of the large sized, it is on the other hand contended—1. That without debating whether from their birth, till they are slaughtered, the large or the small one eats most for its size; yet on the whole, the large one will pay the grazier or farmer who fattens him, as well for its food. 2. That though some large oxen are coarse grained, yet where attention is paid to the breed, (as is the case with the Herefordshire,) the large ox is as delicate food as the small one. 3. That if the small sized are better calculated for the consumption of private families, of villages, or of small towns, yet that large cattle are fitter for the markets of great towns, and in particular of the metropolis. 4. That were the flesh of the small sized ox better, when fresh, yet the meat of the large sized is unquestionably more calculated for salting, a most essential object in a maritime and commercial country; for the thicker the beef, the better it will retain its juices when salted, and the fitter it is for long voyages. 5. That the hide of the large ox is of very great consequence in various manufactures. 6. That where the pastures are good, cattle and sheep will increase in size, without any particular attention on the part of the breeder, large animals are naturally, therefore, the proper stock for such pastures. 7. That the art of fattening cattle, and even sheep, with oil-cake being much improved and extend-

ed the advantage of that practice would be of less consequence, unless large oxen were bred, as small oxen can be fattened with grass and turnips as well as oil-cake; and lastly, that large oxen are better calculated for working than small ones, two large oxen being equal to four small ones, in the plough or the cart.

Such are the arguments generally made use of on both sides of the question; from which it appears, that much must depend upon pastures, taste, mode of consumption, markets, &c. and that both sides have their advantages. The intelligent breeder, however, (unless his pastures are of a nature peculiarly forcing,) will naturally prefer the moderate sized, in the stock he rears.

The late Mr. Davis, of Longleat, one of the ablest agriculturists this country has produced, has given some useful observations on the subject of size. He laments that the attempts which have been made to improve the breeds of cows, horses, and sheep, have proceeded too much upon the principle of *enlarging the size of the animal*; whereas, in general, the only real improvement has been made in the pig, and that was by reducing its size, and introducing a kind that will live harder, and come to greater perfection at an earlier age. His objections indeed to the using of large heavy heeled black horses, in preference to the smart, the active, and the really useful breeds, merit particular attention. In some situations, the steepness of the hills, and the heaviness of the soil, require more than ordinary strength; but in such cases, he maintains, that it would be better to add to the number of horses, than to increase their size. Great horses not only cost proportionably more at first than small ones, but require much more food, and of a better quality, to keep up their flesh. The Wiltshire carter also takes a pride in keeping them as fat as possible; and their food (which is generally barley) is given without stint. In many instances, indeed, the expense of keeping a fine team of horses, amounts to nearly the rent of the farm, on which they are worked. They are purchased young when colts, and sold at five or six years of age, for the London drays and wagons. The expense of their maintenance is very seldom counterbalanced by the difference of price, more especially as such horses are gently worked when young, that they may attain their full size and beauty. In ploughing light soils, the strength of a dray horse is not wanted; and in heavy soils, the weight of the animal does injury to the land.

2. *Form.*—Though it is extremely desirable, to bring the shape of cattle to as much perfection as possible, yet profit and utility ought not to be sacrificed for mere beauty, which may please the eye, but will not fill the pocket; and which depending much upon caprice, must be often changing.

In regard to form, the most experienced breeders seem to concur in the following particulars: 1. That the form or shape should be compact, so that no part of the animal should be disproportioned to the other; and the whole distinguished by a general fulness and rotundity of shape. 2. That the chest should be broad; for no animal, whose chest is narrow, can easily be made fat. 3. That the carcass should be deep and straight. 4. That the belly should be of a moderate size; for when it is more capacious than common, in young animals, it shows a dis-

eased state, and in older ones, it is considered a proof, that the animal will not return in flesh, in milk, or in labour, the value of the extra quantity of food which it consumes; and, 5. That the head, the bones, and other parts of inferior value, should be as small as is consistent with strength, and with the other properties which the animal ought to possess. The form must likewise be such, as to contain the greatest possible proportion of the finer, compared to the coarser and less valuable parts of the animal. This, by selection, may be attained; and thus the wishes of the consumer may be gratified.

The form of animals has fortunately attracted the attention of an eminent surgeon, (Henry Cline, Esq. of London,) the substance of whose doctrines are—1. That the external form is only an indication of the internal structure. 2. That the lungs of an animal is the first object to be attended to; for, on their size and soundness, the health and strength of an animal principally depend. 3. That the external indication of the size of the lungs, are the form and size of the chest, and its breadth in particular. 4. That the head should be small, as by this the birth is facilitated, as it affords other advantages in feeding, &c. and as it generally indicates that the animal is of a good breed. 5. That the length of the neck should be in proportion to the size of the animal, that it may collect its food with ease; and, 6. That the muscles and tendons should be large, by which an animal is enabled to travel with greater facility.

It was formerly the practice to estimate the value of animals by the size of their bones. A large bone was considered to be a great merit; and a *fine boned* animal always implied great size. It is known that this doctrine was carried too far. The strength of an animal does not depend upon the bones, but on the muscles; and when the bones are disproportionably large, it indicates, in Mr. Cline's opinion, an imperfection in the organs of nutrition. Bakewell strongly insisted on the advantage of small bones; and the celebrated John Hunter declared, that small bones were generally attended with corpulence, in all the various subjects he had an opportunity of examining. A small bone, however, being heavier and more substantial, requires as much nourishment as a hollow one, with a larger circumference.

3. *Early maturity.*—Arriving soon at perfection, is a material object for the breeder, as his profit must in a great measure depend upon it. Where animals, bred for the carcass merely, become fat at an early age, they not only return sooner the price of their food, with profit to the feeder, but in general, also, a greater value for their consumption, than slow feeding animals. This desirable property greatly depends on a mild and docile disposition; and as this docility of temper is much owing to the manner in which the animal is brought up, attention to insure them early to be familiar, cannot be too much recommended. A tame breed also has other advantages. It is not so apt to injure fences, or to break into adjacent fields; consequently, it is less liable to accidents, and can be reared, supported, and fattened at less expense. The property of early maturity, in a populous country, where the consumption of meat is great, is extremely beneficial to the public, as it evidently tends to furnish

greater supplies to the market; and this propensity to fatten at an early age, is a sure proof, that an animal will fatten speedily at any other period of his life.

4. *Hardness of constitution.*—In the wilder and bleaker parts of a country, the possession of a hardy and healthy constitution is a most valuable property in stock. Where the surface is barren, and the climate rigorous, it is essential, that the stock bred and maintained there, should be able to endure the severities and vicissitudes of the weather, as well as scarcity of food, hard work, or any other circumstance in its treatment, that might subject a more delicate breed to injury. In this respect, different kinds of stock greatly vary, and it is a matter of much consequence, to select, for different situations, cattle, with constitutions suitable to the place where they are to be kept. It is a popular belief, that dark colours are indications of hardness. In mountain breeds of cattle, a rough pile is reckoned a desirable property, more especially when they are to be kept out all winter. It enables them to face the storm, instead of shrinking from it. Hardy breeds are exempted from various diseases, as having yellow fat, also being *lyery*, or blackfleshed, so injurious to stock.

5. *Prolific quality.*—By this property is meant, that the females of a breed, both bear more frequently than usual, and also have frequently more than one at a birth. This property runs more strikingly in sub-varieties, or individual families; but by selection, might probably be extended to the whole breed, in the more general acceptance of that word. This quality is partly owing to something in the habits of animals, and partly to their previous good or bad treatment. In breeding, not only the numbers, but the sex of the offspring, in many cases, seem to depend upon the male parent. Two cows produced fourteen females each in fifteen years, *though the bull was changed every year*. It is singular, that when they produced a bull calf, it was in the same year. Under similar circumstances, a great number of males have been produced by the same cow in succession, but not to the same extent.

6. *A tendency to grow.*—Among the qualities for which thorough bred cattle and sheep are distinguished, that of being *good growers*, and having a good length of frame, is not the least essential. The meaning of which is, that the animal, should not only be of a strong and healthy constitution, but while it gains flesh and condition, should grow to a proper size. As specimens of rapid growth, a steer of three years old, when well fed, will weigh from 80 to 90 stone, 14lb. to the stone; and a two year old Leicester wether, from 25 to 28lb. per quarter, immediately after his second fleece is taken from him. Animals who have the property of *growing*, are usually straight in their back and belly; their shoulders well thrown back, and their belly rather light than otherwise. At the same time, a gauntness and paucity of intestines should be guarded against, as a most material defect, indicating a very unthrifty animal. Being *too light of bone*, as it is termed, is also a great fault. A good grower, or hardy animal, has always a middling sized bone. A bull distinguished for getting good growers, is inestimable; but one whose progeny takes an unnatural or gigantic size, ought to be avoided.

9. *A disposition to fatten*—This a great object in animals destined for the shambles. Some animals possess this property during the whole progress of their lives, while in others, it only takes place at a more advanced period, when they have attained their full growth, and are finished, at the same time, with a suitable supply of food. There are in this respect, other distinctions. 1. Many kinds of cattle and sheep, which have been bred in hilly countries, will become fat on lowland pastures, on which the more refined breeds would barely live; and, 2. Some animals take on fat very quickly, when the proper food has been supplied, and some individuals have been found, even in the same breed, who have in a given time, consumed the least proportional weight, of the same kind of food, yet have become fat at the quickest rate. Even in the human race, with little food, some will grow immoderately corpulent. It is probably owing to internal conformation, that this property of rapid fattening is derived.

The advantages and disadvantages of fattening cattle and sheep, at least to the extent frequently practised at present, is a point that has of late attracted much public attention.

But any controversy on that subject, can only arise from want of proper discrimination. Fat meat is unquestionably more nourishing than lean, yet to digest this oily matter, there are required, on account of its difficult solubility, a good bile, much saliva, and a vigorous stomach; consequently none, excepting those who are in the most vigorous state of health, or who are employed in hard labour, can properly digest it.—Though fat meat, however, is unfit for general consumption, yet experiments in the art of fattening animals, are likely to promote useful discoveries; and though, in the course of trying a number of experiments, errors and excesses may be committed, yet on the whole, advantage may be derived from the knowledge thus to be obtained. As the lean also gains but little in the fattening animal, and the other *offal* becomes proportionably less, as the animal becomes more fat, the public has not sustained much loss by over-fatted animals. Few animals are fatted to more expense to the farmer than the hog, yet to kill it when lean, is exceedingly bad economy. An ox or cow, though the little flesh it meat, has may be of good quality, yet presents, when lean, little but skin and bone; and if slaughtered in that state, would neither indemnify the owner for the expense of breeding and maintaining it, nor benefit the public. A horse and heavy fleshed ox, which would require a very long time, and much good food to fatten, may be slaughtered with most advantage, while rather lean. It is not, however, so much the extent of fat, as the want of a sufficient quantity of lean flesh, of which the consumer complains; for it cannot be doubted, that the lean flesh of a fat animal, is superior in quality, and contains more nourishment, than any other meat.

Here it may be proper to mention, that indication of a tendency to fatten, which is technically called *handling well*. The graziers and butchers in various parts of the kingdom, have recourse to the hand, and the feeling of the skin, or cellular membrane, for ascertaining a disposition to fatten; but since Bakewell directed the public attention so much to breeding, that prac-

tice has become more generally known. Handling cannot easily be defined, and can only be learnt by experience. The skin and flesh of cattle, when handled, should feel soft to the touch, somewhat resembling that of a mole, but with a little more resistance to the finger. A soft and mellow skin must be more pliable, and more easily stretched out to receive any extraordinary quantity of fat and muscle, than a thick or tough one. The rigid skinned animal must, therefore, always be the most difficult to fatten. In a good sheep, the skin is not only soft and mellow, but in some degree elastic. Neither cattle or sheep can be reckoned good, whatever their shapes may be, unless they are first rate handlers.

The improved short horned breed, besides their mellowness of the skin, are likewise distinguished by softness and silkiness of hair. Too great a length, however, ought not to be aimed at, since it is not easy in that case, to preserve a due proportion in the animal, without which it cannot be considered perfect.

7. *Lightness of offal*.—It is also of much importance, that an animal, solely bred for the shambles, should have as little *offal* as possible, and consequently, a greater proportion of meat applicable as food for man.*

* The great perfection of an animal is, when the dead weight of all the eatable parts, approaches the nearest to the weight of the animal when alive. The following statement of the live and dead weight of a Devonshire ox, aged three years and ten months, will explain the manner in which these accounts are drawn up.

	Stone.	
Live weight,	114	
<i>Offal</i> ,		
Tallow,	10	6
Hide,	6	3
Head and tongue,	2	9
Heart, liver, and lungs,	2	7
Feet,	1	4
Entrails and blood,	11	13
		35

Carcass, or four quarters, 79
Consequently 10 stones of live weight, produce 6 stones 12 lbs. of dead weight, or butcher's meat. *Durham's Report*, p. 239. The average of other experiments is, from 6 stone 10 lbs. to 6 stone 13 lbs. of dead weight, to 10 stone of live weight. When an ox is fed for two years in succession, a much higher proportion of dead weight is the result.

In sheep, on an average, from 10 lb. of living weight, 6 lb. 7 ounces of dead weight, converted into food, may be obtained.—*Durham's Report*, p. 251; consequently, in this respect, cattle are superior to sheep.

From the Richmond Enquirer.

THE CROPS.

The following letters, one from the county of Charlotte, the other from the state of Georgia, present very opposite, but interesting views of the state of the present crop in different sections of the country. The truth is, our country is so large—1. that if the crops fail in one part, they succeed in another, and thus the superflux of one tends to relieve the deficiency of the other;—2.

It is besides so well intersected with water courses, and assisted by coast navigation, that the breadstuffs of one district are with comparative ease and cheapness transported to any others;—3. We have also this advantage, superiour to almost every other country in the universe, that we have different breadstuffs for the support of our countrymen. If the wheat harvest fails, we may obtain relief from the corn crop, and *vice versa*. Whereas the countries of Europe, depending upon one principal source of supply, are liable to many and serious inconveniences from the failure of their harvest. But *famine* can scarcely ever approach our doors.

TO THE EDITOR.

Monticello, Geo. Aug. 20. 1819.

The prospects of the agriculturalist were never more flattering in this country, particularly the new purchase of Georgia. Corn and cotton unusually luxuriant, and should the continued rains not produce the rot in the latter, a very abundant crop will be made. Corn, it is supposed, will not command more than \$1 50 per barrel from the stack though last autumn it was worth \$1 50 to \$2 per bushel.

TO THE EDITOR.

Dated Charlotte, Virg. 19. 1819.

In answer to your request of the 10th inst. I propose to give you some account of the very fatal drought in this part of the country, and of our prospects for a crop.

I will premise what I intend to write by informing you, that I have lived on this plantation, in the neighbourhood of Charlotte court-house, forty-one years, the greater part of which time, I have kept a memorandum of remarkable events, such as droughts, uncommon wet spells, great freshets, with early and late frosts, &c. This year has been uncommonly dry, ever since early in May, so that the oat crop has come in very short—I think not half an average crop.

Wheat had so far made itself before the drought became excessive, that the quality is good, but there was not much seeded; there is, however, an average crop of wheat.

The corn crops, unless the refreshing showers we have had now for three days in succession, should do more for it than we can well calculate upon, will not be much over half an average crop, and in some neighbourhoods, as I am informed, (for I go very little from home,) they cannot possibly make bread. I have a son and a nephew just returned from a visit to the Missouri; they say mine is the best crop, that they have seen off the rivers, this side of Lexington, Kentucky, and that in their opinion, numbers of farmers will not make more than a peck of corn to the acre.

Of the tobacco crop, I know not how to speak. I will just describe my own to you. We have not had a good season for planting since early in May, until this week, and it is now quite too late to plant. We have had two slight seasons since May, one the tenth June, the other the sixteenth July. We made out to get 150,000 hills planted; much of it would live about a week and die. There is now about 30,000 hills entirely missing, and from 20 to 30,000 more about

is large as it was when planted. We have planted, watered, and covered a considerable part of what is now growing. We have some right likely tobacco, and think if no disaster happens to it, we shall make better than half a crop. We are beginning to house; it is of good quality.

N. B. I have a plantpatch, an old standing one, on a branch which we have always been able to water in the night or morning, the driest spell I ever saw, until this summer. It has been almost constantly dry, and no chance to water it.

G. S.

FOR THE AMERICAN FARMER.

On Hedging....No. 4.

I came to a conclusive decision about the year 1800, to try an experiment—first forming an idea of such a hedge as my imagination presented as a complete one; then I began to propagate and cultivate with that design, until I have accomplished the object fully to my expectation; first on a smaller scale, but extending it to a more general purpose; I found the utility as well as the practicability of the change from a dead to a living fence.

And as it regards the ornamental part. I had not taken that into consideration, until 1816, when having a field sown with the red chaffed bearded wheat, that kind having a rich looking tint on the approach of harvest, and being hedged, and the hedge newly shorn or trimmed—the lively green hedging of equal height with the enclosed grain, maturing for the sickle, on a piece of elevated ground inclining southeast, and facing the public road, attracted attention, and it may reasonably be supposed, that I was gratified not only with the ornamental appearance, but with the safe guard to so valuable a production, and see my efforts for a series of time crowned with success. But there was another consideration in the outset, that I had in view, that of casting some light on the subject, if successful, for the benefit of others. I was now gratified on finding my neighbourhood becoming noted for hedging, and am fully convinced, that ocular demonstration had the desired effect.

A farm well hedged, and carefully trimmed annually, in each district of the country, in public situations, would spread the propagation of hedging abundantly more than all that I shall say on paper: nevertheless I shall state facts as I progressed.

Beginning in 1800, not having patience to begin with the seed or berry, to wait two years for their vegetation, as my worthy friend and neighbour William Armor had effectually experienced, in his practice of cultivating from the seed of the Newcastle thorn, I had recourse to another expedient, that hastened the business, by digging up the natural stocks.

After cutting away the top, with a handsaw, near to the ground, the root was readily taken up with a grubbing hoe. Those stocks were such as have arisen from the birds dropping the seed in waste land that have remained a number of years out of cultivation, and on the outskirts of timber land, where the plough has not disturbed them, they get some growth. I was

not particular in size, but took them from the size of a goose quill, to an inch or even two inches in diameter, where I cut off the tops; after trimming the long spreading roots to a moderate size, there was about one hundred perches planted that spring, as early as the frost would admit. The season being moderately wet, they all grew without further trouble, and put out a number of suckers or sprouts, from each stump, shooting from six inches to a foot that season, forming a thick head from the strong stocks, and the others in proportion.

I readily saw that I had ground work for a hedge, not yet knowing that any thing further was requisite, till they came to maturity; therefore I let them shift for themselves two or three years, or longer, until they became matted about the roots with grass, by which mistake, my hedge was retarded in growth considerably. My neighbour William Armor rectified me in that mistake. After ploughing two or three furrows towards the roots, by the assistance of the spade, the grass was all completely covered, and this ought to be done by digging from the bottom of the furrow, to throw up clay or the under soil, that is not so subject to produce grass or weeds. By this means, my hedge assumed a thrifty appearance that season, and no doubt, grew as much as it had done the two years previous. After this I renewed the dressing every year, until the hedge had obtained a sufficient strength, to put into form for its future destiny. This part of the business I had not determined on, as I found a variety of opinions prevailing, some for plashing but most for an upright standard, as nature had formed it to take that course. I was undetermined two years, which course to pursue, and waited until I could satisfy my own judgment, by observation on the various attempts making by those who had been at the business before me.

Nature seems to direct the greatest flow of sap upwards in all productions; these assume an upright posture, the thorn amongst others has that propensity in its natural growth, as the upper branches take the lead of the sap, and grow accordingly, the lower branches become weaker in proportion, and ultimately the undermost decline, as the upper overspread and flourish. This is evident universally with that shrub, as well as many others; and in every attempt at raising a hedge in this way, even if cut to prevent their rising too high, they still make a vigorous effort to shoot out at the top, and the upper part of the hedge spreads too wide in every instance that I have seen, and consequently became weak below, from the branches growing too much spread, being open spaces near the ground.

But, finally, I preferred plashing, or laying the main stock or body of the thorn, which I have uniformly adopted in every case, although I should be pleased to see a further attempt at the upright plan, although I should treat it something different, if ever I make the attempt, and if I do the result shall be known.

FOR THE AMERICAN FARMER.

ON THE CULTURE AND PROPERTIES OF THE GUINEA GRASS

Brownsville, S. C. Sept 2, 1819.

Dear Sir,—I enclose you some of the Guinea

Grass Seed, but am not certain that the quality is good. In the year 1815, some seed were procured from Judge Toumin, of the (now) Alabama Territory. In the month of March, 1815 these seed were planted in drills, about three feet apart, and tolerably thick in the drill. The ground was very rich and in good order, containing about the eighth of an acre. The seed did not sprout above the ground until about the first of May; the sprouts and shoots were not of strong growth. I had them thinned to one foot in the drill, and well hoed twice by the tenth of June; at this time the weather was very wet and rainy for at least fifteen days; at the end of which time my grass was at least three feet high, and continued to grow very well afterwards during the whole year, which was, what is called a wet year. The blades and stalks of the grass continued tender and rich, and were eaten freely by horses and cows, until about the last of July, when the stalks became large and the blades harsh, and were not relished so well by either horses or cows. I did not attempt to make hay of this grass, intending only to get a good stock of seed. The grass grew nearly ten feet high, and completely covered the ground. Some bunches I cut off as near the ground as I possibly could, in the month of August, and so rapid was the growth, that in September the bunches so cut off, were equally as high as any other bunches. There was no appearance of the grass seedling, until about the first of October. No frost fell this year sufficient to kill vegetation, until November, and I saved about half a peck of seed. The seed having lain a long time in the ground this year without sprouting, I believed that I ought to have planted them earlier. In the month of February, 1817, I again planted the same lot of ground, as I had done the year before. The grass sprouted early in April, and was entirely destroyed by frost.

There came up, however, some plants from the seed which had remained on the ground throughout the winter; these I transplanted (but did not separate the roots) into the richest part of the lot; it grew badly this year, not exceeding five feet in height; some of it seeded this year, much earlier than it had done the last; but having only a few bunches, only a few seed were saved. On the fifteenth of March, 1818, I planted the same lot of ground, after having it well manured; the seed were bad, and I had again only a few bunches of grass growing; I therefore delayed gathering the seed as late as possible, thinking they might come to full perfection; but in this I was deceived; for, upon gathering the seed, I found only a few of them good. In the month of March last, I again drilled a small spot of ground, and very few of the seed sprouted, but some seed which had dropped from the stalk last autumn sprouted; these I have transplanted into my garden, where they grow well. When I gather seed this year, I shall endeavour to procure good seed by shaking the stalks daily over some sheet or other cloth, by which means, the ripe seed may be gathered, as they come to perfection. I am induced to believe, from the experiments which I have made, that the seed remain upon the stalk a very short time after they are ripe. I should have mentioned, therefore, that the two last years have been unusually dry in this part of the country, to which circum-

stance I tribute my want of success. I hope that this grass may flourish with you, but I fear your climate may not suit it well. I think, if you cultivate the grass, it would be advisable for you to adopt the plan recommended by Dr. S. Brown or as you would obtain tobacco plants from plat of ground. I have endeavoured every winter to prevent the roots of the grass being killed by frosts, but have not succeeded. The roots are very large and strong, spreading to some distance, and not easily rotted. It impoverishes land very much. I cannot, however, forbear mentioning, that when the seasons are suitable, the seed good, and the land rich, that no grass can be cultivated, which will so amply reward the labour of the husbandman.

OCCASIONAL EXTRACTS.

TO THE EDITOR OF THE AMERICAN FARMER

Dated, Chester, S. C. Sept. 11, 1819.

As cattle, the dairy, and the like, are interesting subjects to the farmer, we would wish to know sometimes what is *improper* for milch cows, as well as what is proper. We have been informed, for instance, that *oats* in grain or meal, and even *oat straw* were *injurious* to cows giving milk, causing the milk to dry up, as the common expression is, or to diminish in quantity, even when they are well fed with it. What little experience I have had, appears rather to confirm the idea. Perhaps yourself or some of your correspondents, from better experience, can confirm or refute the idea.

As I have seen by a little experience, and have been informed by others, that there is a way which appears rather singular, to expedite the growth of young fruit trees, more particularly the apple-tree, while in the nursery, and not having yet seen mention made of it in your paper, I will give you a general idea of it, and perhaps some other person, or myself, can give you a more particular description if necessary.

The trees growing from the seed in consequence, as I suppose, of the small quantity of root, grow slowly: the tree becomes so hard, or stunted, as is commonly said, they for ever after grow slow. In the spring after they are planted, or when they are two years old, bend them all down, by laying rails, or the like, on the trees, lengthwise the rows; cause them to bend pretty short near the ground, and they will put forth a shoot *at the bend*, that will be larger the first autumn, than the main stock would have been, which may be proved by leaving some in their original state and position; but the old stock should be cut off, as well as any supernumerary shoots, during the first summer after being bent in the spring. I send you this, in the way of intimation and inquiry, so that if not yet within your knowledge, some person better qualified than myself, may be applied to, to give you information on the subject, as to the reason of the thing; but as I

think the innovation is useful, it ought to be generally known.

I have not entirely read all your papers, yet have seen no good description of *cheese-making*; if you have not published any, I hope some of your correspondents will communicate some useful essays on the subject.

P. S. I omitted to mention to you, that the crops in this part are very abundant, particularly wheat and corn—price of wheat, 75 cents per bushel; corn not yet gathered, but expected to be from 37 to 50 cents.

DOMESTIC INDUSTRY.

Baltimore, Sept 21 1819.

MR. SKINNER,

Having occasion to go some distance, one day last week into the country, I called to see an old friend, who insisted upon my dining with him. The dinner consisted of excellent ham and chickens, far superior to any brought to market; yet several excuses and apologies were made for the "homely dinner." It was added, that if I would be so kind as to stay over night, I should dine next day on some excellent mutton, as preparations were making for killing a very fat merino sheep that evening. On expressing my surprise to hear that a merino sheep was to be killed, my friend observed that they were no better to him than others; that he had given some years ago, from one to three hundred dollars a piece for the breed, expecting to make a fortune by them; but like many other projects, it ended in smoke:—instead of a dollar and a half which he was made to believe he would get for their wool, he could now with difficulty procure fifty cents. On asking who purchased it, he said that he understood some bought it for exportation, and small quantities were applied to domestic manufactures; but, added he, I believe *that* business is nearly done over. I then asked, why he did not get his own wool manufactured for the use of his own family?

He replied, it was too much trouble, and when done, did not look so well as imported cloth. When I want a coat, continued he, I just go to the store, buy the cloth and pay for it. Pray what did you pay for the cloth in that coat? I think, said he, it was eleven dollars;—yes, two yards and a quarter make my coat, and the outside of this one cost me twenty-four dollars and seventy-five cents. Here my friend was reminded by his wife, that he had forgotten, the last time he was in town, to purchase the silk dress he had promised her. My dear said the husband, I did not forget it, but money is become so very scarce, that really I had it not to spare. This apology excited a female nod of the head, expressive of but little satisfaction. I therefore jocosely observed, that money must be scarce where merino wool sold for fifty cents per pound, and broad cloths cost eleven dollars per yard; and, to keep clear of silk

addresses, immediately I gave the conversation a different direction.

As I rode home in the evening, I could not get the merino out of my head. I strongly suspected that the family I had dined with, was but a *miniature of the country at large*; that the fifty cent wool, the eleven dollar broad cloth, the promised silk dress;—and above all, the death of the merino sheep, would go a considerable length in accounting for the present state of things amongst us.

Should you, Sir, be of the same opinion, which I will take for granted, if you give this a place in your valuable paper, you shall hear again from, Yours, respectfully,
COGITATIVUS.

Extracts from a Compendious Dictionary of the Veterinary Art.

(Continued from No 25. p.—195.)

BLACK LEG or QUARTER EVIL—A disease incident to young cattle, from one to two years old. Many names have been given to this disease, just as naming as that we have chosen from them: the symptoms also have been variously described. All writers seem to attribute it to putting young animals into rich pasture too hastily, whereby a redundancy of blood is generated, and the system too powerfully excited. The first symptoms are an appearance of heaviness and disinclination for food. On examining the animal, a swelling may be observed in some part of the body, generally beginning in the legs and proceeding upward. On feeling the swelling, a crackling may be perceived under the skin; the swelling sometimes extends to the loins or belly. In some cases the joints are particularly affected, causing severe lameness. Bleeding is generally allowed to be the essential remedy; and though the disease most commonly proves fatal, it appears probable that bleeding largely in the first appearance of the symptoms will often prove effectual. Clater recommends the following drink, as a purgative.

"Take Glauber's salts from eight to twelve ounces, according to the animal's strength.
White and nodial powder, one dram.
Camphor, one dram.
Aniseed and ginger of each one ounce.
Treacle, four table spoonfull.—Mix for one drink."

It is needless, perhaps, to point out the inconsistency of giving a large dose of ginger for a complaint so highly inflammatory, in which light the author certainly considers it; for he adds, "this will be found a powerful drink in removing those inflammatory symptoms, which attend diseases of this kind." He recommends, "if the beast is not purged in the space of twelve or twenty hours, to give half the dose every night and morning until the desired effect is obtained." The same author directs, after the animal has been purged, a curious tarrago composed of alum, nitre, bark, aniseeds, carawayseeds, treacle, and vinegar; if the fever still increase this wonderful drink is to be omitted, and a powder given every morning and evening, consisting of

Tincture of opium, }
Camphor, and } of each two drams.
Antimonial powder, }
Nitre, one ounce.

We are then directed to rub the swollen parts with the following mixture:
Nitre, four ounces.
Vinegar, one quart.
Oil of vitriol, one ounce.
Tincture of opium, two ounces.
Camphorated spirit of wine, four ounces.—
M.x.

We are then told, if the tumefied parts are gradually

proceeding to a state of suppuration a mixture which he calls *emollient oils*, is to be used, containing several highly stimulating ingredients: such as oil of turpentine, water of ammonia (spirit of sal ammoniac,) opodeldote, and tincture of opium. To finish this elaborate medical discipline, we have a prescription for the soreness of the mouth which accompanies this disease, composed only of four ingredients, viz. burnt alum, bole, salt, and vinegar: Mr. Clater then points out the preventive measures to be adopted. As soon as the disease makes its appearance upon one of the herd, let them all be brought into the fold yard, and lose from two to three quarts of blood according to their size and strength. Let them be kept there till next morning, and then take one of the following drinks." The author does not inform us which of these drinks is to be preferred, and some readers may perhaps feel puzzled in making a choice, as each contains one very palatable ingredient: in the first, one ounce of brown sugar candy is directed, and in the other a glass of common gin! Many farmers would doubtless prefer the latter. Mr. Skerrett gives rather a different description of the disease. "The disease begins on a joint of the leg or thigh, and sometimes in the foot; it is first discovered by a lameness of the animal, and the part when examined discovers a crackling and swelling; showing that air has made its way through the skin and flesh. Its progress is to rise upward, and to spread over that quarter which is first seized; when it rises to the back and kidneys, it then proves quickly fatal." "Bedding," he adds, "is the principal remedy to be depended on, and should be carried to the same extent as in active inflammation; the state of the parts is not to be omitted, and scarifications so as to unload the vessels will be of great service; after this the parts should be dressed with equal parts of common salt and nitre, finely powdered, by which means suppuration will be induced, and a check put to the disorder." He advises at this period fomentations; and observes, that clearing the bowels must not be omitted. His preventive remedy consists in giving the following powder two or three times in the year, to young cattle placed in rich pastures, and bleeding each time:

Flowers of Sulphur, four to six ounces.

Nitre one ounce.

Grains of Paradise, two drams.

Mr. John Lawrence, in his Treatise on Cattle, observes, in speaking of this disorder, "prevention of this malady, is the only cure worth notice: because after the attack, the very nature of the disease renders all remedy either uncertain or of very little profit, even if successful, on account of the expense of time and money. With this view the young cattle should not be pushed so forward in condition; and indeed the same precaution may be useful in some degree with respect to the full aged. A piece of short or inferior keep should be reserved as a digesting place, in which the cattle may be occasionally turned to empty and exercise themselves." Mr. Lawrence advises also an alterative powder, composed of sulphur and antimony, being given daily for a month, and two rowels or setons in each breast. We think Mr. Lawrence's advice upon this subject very reasonable, but consider the medical part of it unnecessary. In the 5th volume of the Farmer's Magazine another plan is communicated by a practical farmer, suggested to him by a skilful blacksmith, which he asserts has often succeeded; but as the paper is anonymous, and the plan apparently absurd, we do not feel inclined to credit his assertion. "The first thing he did was to take a little blood from the neck: he then pulled the skin from the flesh on the side that was most pained, still keeping the beast walking as much as possible; he then caused cold water to be poured in large quantities on the part affected, still rubbing and keeping the skin loose on the affected part; he then made three cuts with a pen-knife, each two inches long, into which he rubbed salt and water; in this manner he continued four hours; at one time driving him, then pouring on

water, loosening the skin from the flesh, and rubbing in salt; by this time he was not near so crippled, and began to take his food; we were ordered however to keep him in motion all night, and in the morning he was well for his food, and never had a return of the complaint." The practical farmer says he followed the blacksmith's practice with success, only, instead of pouring water on the part, he put a rope about the beast's head, and made him swim in a deep pool; he then drove him about and gave from half an ounce to an ounce of laudanum; but never opened the skin. He observes, that he never knew an animal recover from this disease when left wholly to nature, and that it is more difficult to cure in the hind than in the fore-quarters. The fatality of this disease renders it a subject of great importance to breeders of cattle, as well as to farmers in general: this consideration has induced us to treat of it at some length; it may not be amiss however, before we conclude this subject, to describe another method of preventing this disorder, which however absurd it may appear, is said to be generally practiced in Cheshire and Staffordshire with success. "The animal having been properly secured, an incision is made in each foot, beginning at the division of the claws, and extending from two to three inches upward; a blueish vessel [vein] is then seen which is to be drawn out by passing a crooked needle under it, and cut off with scissors. The wound is first dressed with escharotic powder, afterward with digestive ointment." In what manner this curious operation can prevent the disease in question, it is not easy to imagine; if they who confide in its efficacy take care not to feed their young cattle too hastily, or, as Mr. Lawrence expresses it, "not push them too forward in condition," the mystery will cease. Such a variety of names have been conferred on this disorder, that it appears necessary to give a list of them, which is taken from Mr. John Lawrence's *Treatise on Cattle*:—*Sweat of blood—Fomit of Blood—Blood in the Back—Blood in the legs, or Crateuch—Blane in the Tongue, or, Overflow of Blood—Striking in, or Rising of the Blood—Algham, or Iron Striking—Joint Murrain, or Garget—Black Quarter—Quarter Evil—Black Leg.*
[To be continued.]

Internal Improvement.

ROANOKE AND TAR RIVERS.

Mr. Fulton, the State Engineer, has returned from his visit to the Roanoke and Tar rivers, and has furnished a report on each to the Commissioners of Navigation. In the prosecution of the works on the former he suggested some important considerations for the Navigation Company; and in respect to the latter, he points out to the Company, the best mode of effecting the proposed navigation; in which he finds little difficulty.

Mr. Fulton set out on Wednesday, for Cape Fear; and after inspecting the works carrying on there, he will visit the Pedee, Yadkin, Catawba, &c. after which he will probably take a view of our sea coast.

Since writing the above paragraph, we have been favoured with the following particulars in relation to the Engineer's late visit to Tar river.

The President and Directors, accompanied by Mr. Fulton, descended the river from Lewisburgh to the Little Falls at Battle's Mills, one mile below the Great Falls. The low state of the river afforded an opportunity of observing every difficulty to be surmounted. Many parts of the river are perfectly clear of obstacles, presenting fine still deep water, navigable at all seasons; and a few locks and dams being erected in the other parts, and the logs and rocks removed, will render the whole navigable. And as the erection of the dams will afford fine situations for valuable mills, the disposal of them would go towards defraying the expense of the work. The distance from Lewisburgh to these falls

by land is 37 miles, by water it is estimated to be fifty.

From the head of the most important fall, (Goodson's) a canal may be cut into the river below all the falls at a much less expense than has been hitherto estimated. From thence to Tarborough the river was not examined, but it is understood to be passable by boats at most seasons of the year; and beyond Tarborough the character of the company does not extend. It is believed, however, that there are obstacles in the river between Tarborough and Washington, which must be removed before the river can be navigable with ease. And it is to be regretted, that local prejudices should have hitherto prevented the citizens of these towns, and of that section of country, from joining cordially in effecting so desirable a work. We trust, however, that time and more correct information, will produce a change of opinion on this subject.

We are pleased to hear that the citizens of Nash county, are becoming more favourably disposed towards the opening of the river, from a belief that the plan is practicable. Mr. Lamon, one of the representatives of that county, on passing his house not only showed the Engineer and Directors much attention, but joined and accompanied them to the Falls, indeed it is confidently hoped, that a project so big with importance to so large a district of country will not fail or want of the necessary support for carrying it into effect.—*Raleigh Reg.*

New invented Wheel Carriage.

Liverpool, July 2.

We have witnessed, within this day or two, the newly invented four wheeled carriage, which lately excited so much interest in Scotland. Upon inquiry, we find that its properties are, cheapness in the construction, ease in the travelling, and carry a total evasion of duties and tolls. By a great mechanical improvement in the axles, one horse performs the work of two with the most perfect ease; and, by a singularly ingenious contrivance, the horse can be, in the event of an accident, instantaneously relieved from the carriage by the will of the driver. The easy riding in the carriage arises from the peculiar formation of the perch, and superior to every other mode in the elastic effect, as in every other way the rider is subject to continual jerks; but in this, the effect is a complete swinging or canting motion, elevating and depressing, so that under any shock that it can be liable to, it would be impossible to unsettle the driver. This singular vehicle has undergone some repairs by some of the coachmakers of this town, whom we do not particularize, as it would subject us to the advertisement duty. The following paragraph is on the same subject.

On the 8th instant a commercial traveller, from London, in a newly invented four wheeled carriage, was stopped at the toll-bar of Brachelston, at the head of Greenock on account of refusing to pay the rate exigible for a gig. He offered the sum payable for a wagon; but, as this was refused by the toll-keeper, the matter was brought before the justices of the peace, who decided that the carriage was not a gig; that it was only liable to payment of the rate offered; and found the toll-keeper amenable in expenses.
[Scotch paper.]

Papers communicated to the Agricultural Society of Virginia.

NOTTOWAY COUNTY, Feb. 15, 1819.

Dear Sir,

Feeling a great desire, that the use of clover and plaster should be more hastily brought into general use, by way of promoting the improvement of our much injured soil, I transmit you an easy method of applying the plaster, perhaps not known to the Society, which is a project of my own, and perhaps may be much improved.—The plan is as follows:—Have a common pair of tumbrel cart wheels, the length of axletree to suit the box or width of rows or beds,

(my beds are six feet wide) and have a pair of shaves pinned on the top of the axletree, to project over the axletree 2 1-2 feet behind; to the ends of those shaves to be swung with a rope, or a pair of traces, a box about a foot from the land, made as follows: six feet long, one foot deep, fifteen inches wide at top and eight inches at bottom, with two partitions, so as to make the box in three equal divisions the bottom to be covered with wire, wove a good size finer than a hand sieve, for getting cockle out of wheat, that nailed to the bottom of the box, and supported by a narrow strip of wood lengthwise, and several crosswise, so as to regulate the sifting of the plaster per acre; a notch to be cut in the edge of the middle division, one inch deep and three wide, to rest a staff on, to keep it in the right place, which staff is to be handled by a fellow walking after the box, and striking the farther side from him with the end of the staff and the side of the box next to him, with a pin fixed in the staff, which will be described hereafter. This box is to be carried by a gentle horse carrying the wheels and box, rode by a small boy to guide him, and the hand attending the box, tapping the box fast or slow, hard or easy, so as to regulate the sowing of the plaster. The staff to be made as follows:—about 7 feet long, the size of a common hoe helve, except at the end resting on the box, about 10 inches of which may be 2 inches diameter, with a pin fixed in it, so as when the hand using it, draws it back, to strike the farther side from him: the pin may strike the side next to him; this may be fixed in by boring an auger through the staff, but very moderately crossed, and fixing a good sturdy pin fast in it, to show about two inches, and by this means the staff gives two strokes to the box instead of one, which sifts the plaster much more regular. I am afraid you may not understand my awkward manner of describing this instrument, but you may be well assured, it answers a very good purpose, as the labour is very light, the plaster saved from blowing away, put in more regular and with much more despatch, where the land lies well and clear of stumps, &c. A hand, horse and boy, can plaster from 10 to 12 acres per day. If the project cannot be understood from this, I hope shortly to attend one of the meetings, when I hope to have the honour of becoming a member of the society, or I will have a box made, and sent for the use of the society.

Your's respectfully,

EDMUND IRBY.

P. S. I send you a small sample of the staff cut out of a card, and a sample of the wire to cover the bottom of the box: only a half bushel to be put in the box at once.

E. I.

To the Secretary of the Agricultural Society of Virginia.

THE FARMER.

BALTIMORE, FRIDAY, SEPTEMBER 24, 1819.

"GO THOU AND DO SO LIKEWISE."—Our sister states, on the right and on the left, are vying with each other in giving encouragement to agriculture, Maryland, the centre of communication, instead of gathering light from all her surrounding sisters, and making herself the focus of enlightened policy, seems satisfied to continue the victim or narrow jealousies; torn by local conflicts and party strife, her several sections seem to have realized the fate of the *Atterbury cats*, actuated by an eternal spirit of animosity, they have fought against each other without any other benefit or satisfaction, than that—of eating each other up.

Hog laws, and goose laws, and battery laws, and bank laws, and insolvent laws, appear to make up the Alpha and Omega of the Maryland statute book. Is it not time that something was done, for the farming and planting interest, by the, so called, representatives of this most substantial class of citizens? We hope that hereafter, when men offer their services for

that most dignified (when well exercised) office of law-making, the people of the state will inquire not so much—are you a federal, an aristocrat? a republican, a democrat? but, what will you do to aid the cause of the plough? What will you do to give intelligence and profit to the labours of the agriculturist? Will you appropriate a part of the revenues of the state, as premiums to be distributed in each county, as an incitement to exertion and a premium to excellence in all the branches of rural economy. In the state of New York, ten thousand dollars have been divided amongst the agricultural societies of the different counties, to be distributed in this way, and the rivalry thus excited promises to give a new aspect to the whole state, and the money thus taken from the treasury of the people, will be repaid ten fold by the increased intelligence, wealth and power of the state.

The following extract from that valuable publication, *The Albany "Plough Boy,"* will give the Marylander some idea of the effect of legislative encouragement in one county alone. Why might not every county in Maryland make a little exhibition?

Rensselaer Agricultural Fair.

A public Fair, for the purchase and sale of horses, and cattle and all animals, articles and goods, the growth, produce, and manufactures of all countries, will be held on the common, south of Hoosick street, and east of River street in the city of Troy, on the second Tuesday of October next, commencing at 10 o'clock A. M. and to be continued for two days, under the superintendence of the Board of Managers of the Agricultural Society of the county of Rensselaer. And that conformably to a resolution of the said Board, premiums will be paid on the animals mentioned in the following catalogue, which shall have been raised within the county, or owned within it, by the person presenting it, for the term of the last preceding six months. And on the cloths, as stated in the said catalogue, which shall have been manufactured in the said county, from wool or flax raised within it, and which may be offered for sale or shown at the said Fair, to wit:

For the best yoke of fat Oxen,	\$20
best yoke of working oxen,	10
second best do. do.	5
best fat cow,	10
best milch cow,	10
second best do.	5
best bull, not exceeding 4 years old,	10
second best do.	5
best heifer, 2 years old last spring,	10
best heifer, 1 year old last spring,	5
best six calves raised for stock on any one farm, by one person,	16
second best do. do.	4

HORSES.

For the best stud horse,	15
best breeding mare,	10

SHEEP.

For the best flock of fine wool sheep, not less than 20,	10
best do. common do. do.	10
best pair of ewes of the Leicester breed,	10
best ram of do.	10
best Merino ram,	10
best common do.	5

HOGS.

For the best boar, not less than one year old,	10
best sow, not less than two years old,	5
best fat hog, dead or alive,	10

WOOLLEN CLOTHS.

For the best piece of superfine broadcloth, not less than 20 yards long and 6-4 broad,	25
best piece of narrow cloth, not less than 26 yards long and 3-4 broad,	10
best piece of fine cassimere, not less than 20 yards long and 3-4 broad,	10

best piece of sattinette, not less than 20 yards long and 3-4 broad, 10

LINEN CLOTHS.

For the best piece of linen shirting, not less than 25 yards long and 3-4 broad,	5
best piece of diaper, not less than 25 yards long and 3-4 broad,	5

The foregoing premiums will be paid in suitable pieces of plate of the value of the several premiums, or in cash as determined by the managers. The society will meet at Barney's on the first day of the Fair, at half past 8 o'clock, precisely, to make arrangements. The board of managers and officers of the society will meet at the Flag-staff, on the Fair ground, at 10 o'clock precisely, on the first day of the Fair.

The several competitors for premiums on cloths, are notified to deposit their several specimens or pieces of cloth, at the store of Albert Richards in River street, near Gray's tavern, at or before twelve o'clock of the first day of the Fair, where a suitable room is provided for their reception—and no competitor will be admitted after that hour. A list or catalogue of the several articles and of the names of the owners respectively, will be made and kept by Mr. Richards, but will not be disclosed to the judges, or to any other person, until after they all have been examined by the judges, and the premiums determined.

The judges of awards will proceed at 12 o'clock of the first day of the Fair, to examine the several articles offered for premium. And the competitors for premiums and the members of the society, are also respectively notified to meet at the Flag-staff, at ten o'clock precisely, on the second day of the Fair, and will form a procession from thence to the court-room in the court-house, or to Mr. Coe's church, as may hereafter be determined by the committee of arrangement, and of which notice will be given on the morning of that day or before, where the judges of awards will make their report, and the premiums be delivered or paid, and where, immediately thereafter, an election for the officers of the society for the ensuing year, will be held agreeably to the provisions of the constitution.

The Recording Secretary and Treasurer will attend at the Flag-staff and booth on the Fair ground from 10 o'clock, A. M. to 12; and from 1 to 4 o'clock, P. M. for the purpose of admitting members to the society, and delivering diplomas.

Those persons who have had subscription papers in charge, are requested to return them to the Recording Secretary or Treasurer, on or before the first day of the Fair.

(Signed) GEORGE TIBBITS, Pres't.

HENRY HOYLE, Rec. Sec'y.

Troy, Aug. 19, 1819.

N. B. As the funds of the society have considerably increased since the above selections for premiums were made, it will therefore be recommended by the committee to the board of managers, to award premiums on animals and articles not enumerated, which may be deemed meritorious.

** The Printer wants three or four lines to fill this page—I give him, therefore, the following Soliloquy, to be read and said by each delinquent Subscriber:—I owe unto the Editor of the American Farmer, 4 dollars for the year's advance, which 4 dollars I will positively enclose to him by the next mail, at his risk, or pay them to my neighbour, the Postmaster, on his account; or, not liking his paper, I will order him to stop it.

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,

BALTIMORE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norant
Agricolus." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, October 1, 1849.

NUM. 27.

AGRICULTURE.

How astonishing has been the growth of our population, and the progress of improvement throughout our country, and especially in the "new settlements!" Those states which were but very lately denominated the Back-woods, and actually abounded with little more than bears, wolves, and Indians, have been cleared, and laid open to the light of heaven, of civilization, and of science; and are already reflecting back as much light, as they have borrowed from their elder sisters on the Atlantic. In some very important respects, Maryland is actually behind Kentucky, so much so, that we are ashamed to present the contrast; and our young sister Tennessee, whose military prowess in the late war, shed a lustre on the whole American family, is now, it would seem, cultivating with assiduity, the arts of peace, and the resources of internal improvement. Take, for example, the following report, as an evidence of the progress of the plough, and of the estimation in which AGRICULTURE is already held, by a people, amongst whom, but a few years since, nothing was heard but the reverberating echo of the woodman's axe and the hunter's rifle.] *Ed.*

From the Nashville Whig.

The following is the report to the Agricultural Society, mentioned last week: we believe it will be read with that interest, which the importance of the subject to which it relates, demands.

The society adopted a resolution requesting the editors of the papers in Nashville, to publish this report, and with which we cheerfully comply. Perhaps it would be rendering a service to the agricultural community, for editors in the state, generally to publish this report.

To the President, officers, and members of the Cumberland Agricultural Society.

The committee created by a resolve of your last stated meeting, ask leave to report, that they have had under some consideration, the objects to which the resolution of the society directs their attention, that sensible of the importance and difficulties of the duty which it imposes, the shortness of the time, and paucity of opportunities, which has been allowed them, and of their own incapacity un-

der any circumstances, to exhibit the subjects embraced by your resolution, in all their important relationships, with the comforts and enjoyments of society, they do not hesitate in the avowal, that the task assigned to them, has been executed in a manner very incommensurate with its own dignity, or the anticipations of the society. Your committee pretends not to present a finished picture, they have drawn but a faint, and perhaps very imperfect outline, and leave, as the office of better talents, exerted under circumstances more favourable to success, to supply its defects and correct its inaccuracies. The objects which claim the attention and patronage of this society, are numerous and much diversified in their character and relative importance, to the accomplishment of the valuable purposes, for which this institution was originated. Your committee have, therefore, attempted a designation of those only, which are most palpable in their nature, and such as are necessary, or of principal consequence to any exertion made for the advancement of the agriculture of our state.

The committee cannot omit to recommend, that the society direct its attention, to the best method of clearing land of its redundant timber, rock and other materials, which impede or obstruct agricultural labours, to the draining of ponds and marshes, to fencing and enclosing of ground in the most perfect and durable manner; to the rotation of crops, and to the disposition of mineral, vegetable and animal matters, which are found upon the surface of all countries, in such a way, as will be most promotive of the interest of him who cultivates the soil.

These are processes, which, with the practical farmer, demand a careful and primary attention; nor should they in the opinion of your committee, be transposed from this natural order, in the contemplation of those, who set about the investigation of agriculture, in its most scientific aspect. They are subjects of early attention in common practice, and well merit the consideration of this institution. Your committee takes the liberty of suggesting the importance of an investigation into the specific nature of the different earths, which compose the soils in different districts of our country. These however are rarely presented by nature, in a pure and uncombined or unmixed condition. They are much the most frequently presented to the agriculturist, in a form of chemical combi-

nation with other matters, and in this compound aspect, are variously mixed with one another, and with vegetable and animal materials, in different states of perfection and decomposition. In an investigation of this kind, intended as subservient to agricultural purposes, it would seem, therefore, that our attention should be chiefly directed to them, in their states of chemical union, or simple combination or mixture, states, in which they are most frequently presented by nature, and in which they constituted the pabulum or food of all animated nature. This nourishment is derived immediately to all vegetable beings, and through their media, constitutes the food of that portion of the animated world, distinguished by the title of animals, and which is marked by a complexity of structure and function, accordant with its distance from mineral substances. These latter, form the first and simplest of the divisions, into which the materials composing our globe has been artfully separated; and may justly be considered as giving a primary impulse in the production of the endlessly diversified beings, which compose the vegetable and animal kingdoms. The first of these, to wit, vegetables, with few exceptions, dependent upon a perpetual contact with the earth, for existence; and animals, with man at the head of the class, are separated from it, only by the effect of vegetable agency. The earth, being thus important in the production of all animated phenomena, deserves the serious attention of him, whose business is confined to the culture of plants, or rearing of animals; or as is most usual in our state, who unites in himself these different employments.

To establish the identity, and to arrange and classify these simple substances, is the peculiar province of that branch of science, which is termed "Mineralogy," this has a necessary connexion with agricultural learning and merits a correspondent attention from society. But "most of the substances which compose the superficies of our globe, are constantly undergoing alterations in their sensible qualities; and one variety of matter, becomes, as it were transmuted into another." These changes in the condition of the materials, which are subject to it, modify or entirely destroy the characters of the originals, in relation to vegetable and animal beings. Such alterations, whether slowly or rapidly performed, whether natural or artificial,

whether occurring in the atomic particles of matter, or taking place in the phenomena of volcanic mountains, are all of them chemical changes. Thus the gradual and scarcely perceptible decay of the leaves and branches of trees, the rapid combustion of wood in our fields and fire places, the detonation of powder, and the slow decomposition of vegetable, animal and mineral manures, are all chemical phenomena. Indeed few, if any change take place, in the sensible qualities of the matter of our globe, independent of the agency of vital beings, which are not chemical operation.

The object of chemical philosophy, as applicable to the purposes of agriculture, is therefore, to discover the laws by which these causes are governed, in the production of their consequent phenomena. In this point of view, chemical philosophy, or what may be more specifically applicable to present necessity, "agricultural chemistry," merits your respectful attention.*

It is importantly connected with the business of the farmer; and produces in the result of his labour, almost incredible modifications. Your committee are of opinion, therefore, that it is valuable for the society to inculcate the importance of a competent knowledge of agricultural chemistry especially, and some attention to this science, in its more extended application, to the development of the laws of the material world.

The committee recommends to the society, that they should ascertain and bring into common use, the most approved and modern agricultural machinery. These deserve great attention, whether they be such as are necessary in the cultivation of the soil, or requisite in some after process, fitting the pro-

* It is really surprising how little importance seems to be attached to the study of chemistry, when we reflect what a powerful agent it is, in opening to our view the hidden arcana of nature, and how greatly the study of it, enlarges the boundaries of our knowledge. There is not a young man in this city, who can spare twenty dollars for a ticket, and who can command an hour, (from five to six P. M.) that ought not to avail himself of it, to attend Doctor Debbits' lectures on Chemistry, in the Medical College. Whatever may be his destiny whether he intend to drive some mechanic art, or pursue a learned profession, or to plough the soil, or the land: he would not fail all his life to derive pleasure and credit, if not pecuniary benefit, from the knowledge he would thus acquire. We would more especially recommend to those, whose sons are destined to till the soil, to give them the benefit of this course of lectures. It is not meant that every one should be a professed chemist, but an acquaintance with its principles to a certain extent, is indispensable, not only to enable him to analyze the different soils, and to apply his manures with greater effect, but to make him, in society, a more accomplished gentleman. No man can be a good farmer, and make the most of his land and his means, without some acquaintance with chemistry. And even suppose he could is there no pleasure in knowing the nature of things? Is there no difference between the plodding clodhopper, who goes the daily round of drudgery, like the horse in the mill, and the farmer of science, who on the rainy day,

luct for the demands of the market, or domestic consumption. Machinery of this character, are chiefly ploughs, hoes, harrows, rakes, scythes, sickles, threshing machines, fans, riddles, corn-shellers, flails, cob-crushers, mills, &c. &c. The effects already produced through the instrumentality of these implements, in lightening the burden of agricultural labour, and in the promotion of the powers and comforts of our species, are with great difficulty, if at all, subject to any precise calculation. Objects therefore, which in their present state of improvement, have produced results so beneficial to mankind, certainly deserve the greatest possible regard. They are recommended by your committee, as justly entitled to the consideration of this society. The committee suggest the importance of giving your attention, to the most improved methods of cultivating the different vegetables, which the latitude of our state enables it to produce. These are, first, such as are necessary for domestic consumption; and secondly, those which after supplying the demand at home, are intended for exportation to foreign countries. Of the latter description, we deem Indian corn, wheat, rye, oats, barley, buckwheat, rice, hemp, flax and tobacco, as meriting chief attention among others which, though most usually consumed at home, are occasionally shipped abroad, to supply their defect in other places. Among the various vegetables, chiefly or entirely consumed by domestic uses, we may mention Irish and sweet potatoes, turnips, onions, ground artichokes, pumpkins, melons, cucumbers, and the vegetables more entirely culinary; as garlic, leeks, carrots, parsnips, beets, radishes, artichokes, coleworts, cabbages, cauliflowers, lettuce, celery, endive, asparagus, spinach, peas, beans, squashes, tomatas, &c. These as constituting a considerable portion of the food of man, and of many domestic animals during the winter season are

and the long dreary winter's night, can turn with pleasure to his books, and there learn the why and the wherefore of a thousand appearances and results, which to the mere man of practice, steeped in ignorance and superstition, are but so many inscrutable phenomena, affording no amusement, exciting no conjecture, stimulating to no inquiry? How different again must be the character and destiny of the children, reared and educated by two such different parents? The farmer of science watches the opening faculties of his child, "teaches the young idea how to shoot," and by perpetually gratifying perpetual renews his thirst after knowledge; he makes him the ornament of society, and the delight of his declining years. But the mere clodhopper, the contemner of "book learning," tells his ill fated progeny, to deny themselves all the comforts and amusements, that serve to embellish the dreary pilgrimage of human life, to put their trust in their families and their oxen, and for the rest; to watch the changes of the moon, and the shifting of the winds, and the rise and fall of the market; as more important than all the philosophy that ever was promulgated, from the days of Solomon and Confucius to the present time.—Editor J. Farmer;

entitled to the respectful attention of this society. Of the vegetables, the cultivation and improvement of which, should engage the care of this society, we should not omit to mention the different kinds of grasses, which supply the rough food of our domestic animals; as timothy, blue grass, clover, &c. &c. They are produced with little comparative labour, and hence furnish the cheapest food of those animals, which are consumed as the food of man, or of such as are chiefly employed for their power in agricultural processes, or as otherwise ministering to the necessities or comforts of our species. They are objects of considerable importance among the resources of national wealth and comfort, and as such are recommended to your consideration by the committee. To supply them in the greatest abundance and perfection, consistent with the nature of our climate, and character of our soil, is a desideratum, which cannot, for the prosperity of our state, be too early achieved. They should constitute under such circumstances, the chief subsistence of domestic animals, and spare much of the present product of agricultural labour, to be exported to distant markets, and given in exchange for such articles as this climate will not produce, and which the need or comfort of our citizens may require from abroad.

The cultivation and improvement of fruit trees and vines, claim a share of the attention of this society. This duty seems to be embraced in the processes of sowing, engrafting, transplanting, pruning, inoculation, and budding; together with an investigation of the causes which impair their vigour, or produce their entire dissolution, the best methods of preventing or removing the effects of such noxious causes: and the adaptation of individuals to particular soils and situations, which may supply the necessary nourishment of each specific variety.

The committee recommends great attention to improvements in the breeds of our horses, cows, mules, sheep, hogs, goats, and farm-yard poultry—to the best methods of supplying them with food, and defending them against the weather, winter season and other noxious agents, and the adaptation of grazing grounds or ranges, appropriate to their various peculiarities of character; the construction and preservation of barns, stables, cow-houses, sheep-folds, hog-styes, poultry-houses, and buildings employed for the preservation of fruits and culinary vegetables, all merit your consideration, and are essentially connected with the beneficial results of every other agricultural process. The committee doubt not, but that due attention will be given to these objects.

The committee recommends an attention to improvements in the fabrication of domes-

tic cloths, and preparation of articles of food, as of shirtings, Virginia cloth, linsey, woollen cloths, blankets, carpets, bagging, cheese, butter, &c. and all other articles of necessary domestic consumption, especially to the best processes, which are employed in the production of malt, acetous, vinous, and alcoholic liquors. These latter preparations, are not only necessary for domestic use, but already form a considerable article in the exports of our state. They should receive the most diligent attention of this institution; and the policy, and best method of their production and preservation, be enforced upon public observation. The introduction and cultivation of exotic plants employed as food, or sought after for their remedial qualities, are objects of value to our state, and as such, are recommended to the attention of this society. It is confidently expected that the tea plant, would flourish in most of the middle states in America: and there is equal reason to believe that many other vegetables, by proper culture and care might be made to grow in our state, which at this time, are only obtained by importation from abroad.

The cultivation of exotic vegetables, therefore, promises considerable advantage to our country by extending the means of our national independence and by giving a check to that constant drain of treasure, which their importation from Asia and other portions of the world, has greatly contributed to produce, your committee suggests the propriety of the co-operation of this society, in the task of improving the state of our public ways and market roads—in the improvement of the navigation of the water courses, which flow through our states, and in the construction of such crafts, as are best calculated for the transportation of the raw products, or manufactures of our country, to the markets where they are most needed, and where consequently they will command the best prices.

The committee recommends the establishment of spring and fall fairs, and the distribution of useful and honourable premiums to the best specimens of domestic production, which may be exhibited at them accompanied by an account of the processes by which they have been produced, if vegetable, and the mode of feeding and preserving from the weather, if animal specimens.

To effect these different objects, thought worthy of the attention of this society, it is considered that it will be proper, to appoint different committees, whose attention may be devoted to specific objects, and who may report to the society the result, of their investigations or doings, at each quarterly meeting. We would especially recommend a committee of fairs. It should be the duty of this

committee, to select such objects for exhibition from among the vegetable and animal productions of our state, the present improvement of which they deem most important—to fix upon the time and place of holding the fairs, to advertise the same in the newspapers of the town, and on the day of exhibition, to preside as judges of the objects shown, and to assign the premiums to such, as in their opinions, are most perfect. It will also be proper, to select from among the members of the society, a few individuals, conversant with mercantile transactions. These should constitute a committee of markets, and mercantile houses. Their duty will consist in ascertaining the prices current, in different parts of our own, and in foreign countries—the sufficiency and solvency of mercantile establishments; and the best periods for the shipment of our own productions.

They should likewise report to the society, at the quarterly meetings the results of their inquiries.

A committee of agricultural books and inventions, is recommended to this society, as an important provision. It should be the duty of this committee to lay before the society, from time to time, the earliest information of agricultural discoveries—to furnish descriptions or models of improved utensils, and to report such publications, as in their opinion, the interest of the society requires them to procure.

These together with other committees, which may be indicated by the different objects of the institution, your committee deems it proper, from time to time, to appoint; and which, it might be somewhat premature, to designate at this time. They will be called for by the rising necessities of the institution, and at such times, their character and duties will be ascertainable with more certainty, and adapted with greater speciality to the particular subjects, which may require their attention. These are the objects, which have been suggested to your committee, as meriting the chief attention of this institution, there are doubtless many, which they have omitted to notice altogether; and even those, which they have attempted to present for your consideration, are greatly defective in respect to the details of their character. To have supplied this imperfection, however, would have demanded much more time and perhaps talent, than has been allowed to your committee. They ask therefore, that you will accept of this report imperfect as it is, and that you will discharge them from further attention, to the duties imposed by the resolve of your last meeting.

J. PRIESTLY,
J. MULHERN,
J. OVERTON, } COMMITTEE.

July, 1819.

INTERNAL IMPROVEMENT.

FROM THE RICHMOND INQUIRER.

To the Editor

Lexington, Va. Sept. 6. 1819.

Sir,—I enclose you an extract from a letter written by one of the surveyors for the Virginia Civil Engineers, addressed to myself living in Rock-bridge. If you think it will be acceptable to the public, you will please to give it a place in your paper.

EXTRACT.

Loop Ferry, on New River August 24, 1819.

I arrived here this morning. I have not heard from you since 11 ft Lewisburg, five weeks ago; I wrote to you since then, my adventures on the last route surveyed from Jackson's river to Kanawha great falls. The company are all well, and I never experienced more ample health and happiness than this season, in the wilds of Suel and Ganley. You may ask, my friend, what is likely to be the result of the official proceedings of the Virginia Engineers in this part of the state? Whether the contemplated commercial communication can be effected? Whether a turnpike road can be made from James Kanawha rivers? And by which route? Whether New river can be navigated? &c. &c. You will excuse my saying nothing about those matters. It is said interfere with the business of the Virginia Engineers. Their official reports will soon be published, when we anticipate a full elucidation of the whole. You recollect about 20 months ago, I had an opportunity of seeing New river, from its mouth to its first entrance into Virginia, where it is about the size of James river at the Blue Ridge. It then runs about 332 miles on Virginia bottom, to its confluence with Ohio. It is generally a swift deep river, and would in my opinion, be much easier navigated, than either James or Potomac rivers, down to about 25 miles below the mouth of Greenbrier river, where it commences its descent through that great chain of mountains, which traverses this whole section of country, from the big bend of Tennessee river to the head of Alleghany. In this part of Virginia, it is known by the name of Suel and Ganley mountain; properly speaking, it is not mountainous, but rather a high ground of three or four miles ascent on the east side, and two or three descent on the west side, and about 40 miles across. The river runs through this high ground, about at right angles, by way of a long gap or great gulf as it were, of about from one to 200 yards wide at the bottom, and half a mile to a mile wide across the top, and from 800 to 1000 perpendicular feet deep. The sides principally consist of horizontal ledges of rocks, one upon another, frequently forming cliffs, from 100 to 300 feet high in a place. Along the bottom of this great gulf, and hemmed in by cliffs upon all sides, the whole body of Kanawha, rushes with considerable fall for about 40 miles, frequently, through a space of less than 100 yards, and in one place only 38 feet wide. The creeks which rise upon this high ground, run with a moderate descent till within about one mile of the river, when they commence descending the gulf, by falls in succession of 50 to 150 feet at a time. The chief of this high ground water is chalybeate, subject to flow high in winter, and go dry in summer; ten or twenty wet weather springs are sometimes found on an acre of ground.

You ask me whether we are not frequently on high pinnacles, whence we have extensive views? I think I was last Thursday on a certain point on Ganley mountain, about 1200 feet above the river; having a view of the river two miles below and three above; and a prospect of three falls, similar to the big Curshaw falls in James river. The sight of such a vast body of water so far beneath, the sounds of the different cascades, intermingling with each other and echoing against the opposite cliffs, together with the beauty and serenity of the day, and harmony of the songsters of the grove, constituted one of the most interesting scenes, that I ever beheld. You

raise the eye to a level with the horizon—far, the distant mountains roll, one beyond another, until at length they appear converted into clouds; not a human voice is to be heard, nor a mark of the hand of human industry to be seen. All is grandeur—we calculate to elevate the human mind to a contemplation of the sublimity of nature's author.

For a few weeks past, my business has principally laid in a straight direction across the country, from near Lewisburg to Kanawha great falls, frequently crossing the old Ganley trace, by which Lewis marched his army to Point Pleasant.

My friend what great revolutions have occurred in North America since the year 1776! Frequently, on visiting places in the western parts of Virginia, pointed out as having been the seats of human carnage, during the Indian wars, I pause for a moment and think of your father and mine. A little while ago, this whole section of country lay defenceless, exposed to all the horrors of savage warfare; now what a consoling reflection must it be to a Virginian, that the soil is removed beyond all apprehension of danger; and those of her distinguished sons, who fought for us, are now eating and drinking in peace and plenty—tuning their harps under the tree of liberty, and that the theatre of war is probably about to become the seat of the greatest internal improvement in this part of the United States.

The question is probably in your mind, whether Virginia should proceed to make these improvements or not? For my part, I do not possess information upon the subject, sufficient to justify the formation of an opinion either way. (Recollect I do not advance any thing as originating from either of the Virginia Civil Engineers, or any person else; it is merely my own conjecture.) Unless we can find wealth and territory within the limits of Virginia, to trade this way, sufficient to justify the expense of making the improvement, it might probably turn out like the Indian's gun. Considerable trade is anticipated from Ohio, Indiana, &c. This may be doubted—1st because New York will, in a little while, have a water communication by way of the lakes, clear across the heads of those states, and we are told, that it would be quite an easy matter to form a water communication between the lake water and Muskingum of the Ohio. If so, and if Mr. Fulton's remarks on the New York canal, be correct, New York might probably be able to convey a given quantity of produce from a port in Europe, into Ohio river, for less money than we could. And because the Mississippi is becoming almost equal to the Atlantic, and the mouth of Ohio or Missouri may in process of time become a market almost equal to any Atlantic port. Trade might be expected from the head of New river. But North Carolina proposes a communication from the head of New river, to that of Roanoke. However, I doubt whether a farmer living on the head of New river, could not put a ton of produce on board of a ship on the Atlantic Ocean, safer and cheaper by way of the Greenbrier route, than that of Roanoke. So great are the difficulties to be encountered in that river, and the Abnath Sound. Some have thought that by way of Clinch, and Pine Stone rivers, we might draw produce from the south western parts of this state, and the border of Tennessee, which would have traversed the vast rounds of the Mississippi. But the South Carolinians talk of taking the produce of this section of the country, to their market, by means of the Yadkin and French broad rivers. So that our territory would be limited to the country on James and Kanawha rivers, unless sources of assistance unseen by me, might originate elsewhere.

How much would this improvement cost? I suppose, if New-York could make 250 miles of her canal 40 feet wide and 4 feet deep, for \$1,250,000, we could make our 250 miles of James river canal, 30 feet wide and 3 feet deep, for the same money, (we having twice as much lockage to make as they.) And if the United States could make 28 miles of the National turnpike for \$168,000, we could make our

28 miles, from Jackson's to Greenbrier river, across the same mountain for the same, which makes

\$1,418,000

Then suppose Greenbrier river 46 miles, and New river 174 (up to North Carolina,) to be improved on the best modern plan of sluice navigation, for

176,000

Total, \$1,594,000

Now how much territory would we be certain of? On James river, we would have a territory about 250 miles long, in a straight line and average 60 miles wide, which would make 15,000 square miles; on Kanawha from North Carolina to Suil mountain 25 miles below the mouth of Greenbrier, 180 long and average 80 wide, 14,400 square miles, (balancing the trade on the lower parts of Kanawha, against the expense of either opening the river through Suil and Ganley mountains 40 miles or constructing a turnpike road from Greenbrier river to Kanawha great falls 61 or 62 miles) our territory would be 28,200 square miles. This is a territory vastly more extensive, than that which supports either the Bridgewater, or famous Languedoc canals. Nay, it is half as large as all Ireland, and would probably admit of as great a proportion of arable land, as either Ireland or Scotland. We might carry the thing still farther, and say, that a square mile contains 640 acres.—This suppose to be a farm, it would be a hard case if Virginia could not afford one half of her surface to be cultivated, and if so, here would be 14,100 farms. A man able to own one of those farms could, in all probability, export 50 barrels of flour, or produce to that amount per annum, exclusive of some other articles of produce; which would be 705,000 barrels.—Lay toll per barrel 25 cents would be \$176,250 per annum. So that, at this rate the improvement would pay for itself in 10 or 11 years.—But the population and wealth of this part of Virginia falls greatly short of this; so that a proportionally longer time would be required. My reason for mentioning the communication being made by way of Greenbrier river, instead of a turnpike road to Kanawha great falls, is the great superiority and facilities of water conveyance, compared with that of land.—In my mind, something like the proportion between 18½ and 1.—Suppose for instance, that we make a turnpike road 20 miles long, 40 feet wide, and pave it with stone, I suppose, that with an equal quantity of money, we could make a canal 20 miles long, 30 feet wide and 3 feet deep. On this canal, a boat could go with 24 tons burthen, and on this road a wagon could go with 4 tons burthen. Now I could hire a boat for as little money, as I could get a wagon and harness—I could hire a man to steer the boat, dispose of the produce, &c.

This man, boy, and horse, would convey the boat and 24 tons this 20 miles of canal in one day, which would cost me \$6.

Now for the road
We would hire a driver for - - - \$ 1 00
Board him for - - - - - 1 00
Hire six horses at 50 cents per head - - - 3 00
Feed them for 1,00 - - - - - 6 00

Total 11 00

This team could convey 4 tons this 20 miles in one day—which would cost me 11: he would require six days going and half a day each trip to return, which would be 9 days at \$11 per day \$99. Then say 12 tollages at 1,00 - - - - -

So that inasmuch as the land carriage (\$11) can be divided by the water carriage (\$6)—18 times and the half of \$6 remain on the same principle, water conveyance is as far preferable to that of land as \$18½ are more than \$1. If we take back-loading into consideration, it will not alter the case; for the boat can return with as much at one load as the wagon can at six.—Notwithstanding the great resistance that a loaded boat, upon eddy water meets with from friction, and being continually ascending—whereas in case of a wagon upon a road it is quite the contrary.—For a loaded wagon upon a road meets with less resistance, going at a given velocity, than it would going at half that rate; in a proportion not fully ascertained. Something like 1 to 4. Now a loaded boat upon water, going at a given rate, meets with four times the resistance, or would require four times the force to propel it—that it would going with half the velocity. And not taking into consideration the merchants, being detained eight days longer for his produce, and paying eight days longer storage.

My friend this would be a great work for Virginia to undertake, and probably difficult for 238 Virginians of dissimilar minds to come to a conclusion upon. It is one of the most important question ever deliberated upon in our legislative hall. If we only possessed enterprise, we would be certainly able to do it, and it is probable, that the U. States would as freely assist in this case, as that of the National turnpike.

But as to the propriety, time, and manner of effecting this great work—I anticipate something from the Virginia legislature, this session, worthy of her name in the Union and in the world.

It appears upon the one hand, that we should proceed to make this improvement gradually, as we increase in wealth and population—on the other hand, it seems we should do it with all rapidity, lest the Carolinians effect the improvements spoken of, or N York finish her canal.

I am but a youth of neither information nor experience in those matters—you possess both extensively. You ask me for my opinion, I am not able at this time to give it, I solicit information and I expect to be in Lewisburgh about the 30th of August.

Very respectfully yours, &c.

HUGH P. TAYLOR.

From *Bordley's Husbandry*.

DIET IN RURAL ECONOMY.

Count Rumford has made many experiments on diet; and has written a book recommending the best choice for labourers. His book is not now in my possession; but as doctor Lettsom has since published on the same subject, I give below a number of messes selected from his book of "Hints designed to promote Beneficence, Temperance, and Medical Science;" published in 1797.

Dr. Lettsom observes, in general, that pies are more advantageous than roasting or boiling. This he illustrates. Of mutton, 64 ounces in a pie, made with 24 ounces of wheat flour, and eaten with 8 1-4 ounces of bread, in all 96 1-4 ounces, dined 8 persons fully; whilst 60 ounces of mutton roasted, and eaten with 33 ounces of bread, in all 93 ounces, dined only 5 of the same persons.

1. Milk pottage, (thickened milk) he says, is more salutary than tea, and bread, and butter; and made thus, is preferable to milk alone; equal quantities of milk and water are boiled up with a little oatmeal, which breaks the viscosity of the milk, and probably is easier digested than milk alone. Oatmeal is a warmer nourishment than wheat flour, and agrees with weak stomachs.

Of boiling potatoes, he says, in Ireland and Lancashire potatoes are boiled to great perfection, and then are used instead of bread. The potatoes being good, are to be nearly all of the same size. The large and small to be boiled separately. Wash them clean, without paring or scraping. Put them in a pot with

Total 111

cold water; not so much as to cover them, because they will add to the water from their own juices. If large as soon as the boiling begins, throw in some cold water, and occasionally nip at it, till they are boiled through to the centre; they will otherwise crack and burst on the outside, whilst the inside will not be boiled enough. Whilst boiling, add a little salt. The slower they are cooked the better. Pour off the water, and place them again over the fire, for evaporating their moisture, that they may become dry and m-aly. Serve up with the skins on. Steaming them is very inferior to boiling or stewing in water, as above.

4. Potato Pudding.—Lettsom.

12 ounces of potatoes, boiled, skinned, and mashed
1 do. suet.
1 do. milk that is, 2 spoonfuls.
1 do. cheese.

Mix all together with boiling water to a due consistence. Bake it. Instead of cheese there may be an ounce of red-herring pounded fine in a mortar.

4. Potato Bread.—Parmentier.

Crush and bruise potatoes well, together with prepared leaven, (or yeast) and the whole flour designed; so that half be flour, and half potatoes. Knead all up with warm water added. When the dough is enough prepared, place it in the oven less heated than usual nor shut it up so soon as is common, but leave it longer in the oven. Without these precautions, the crust will be hard and short, while the inside will have too much moisture, and not be soaked. When potatoes are to be mixed with dough of flour, they are to be made into a glutinous paste, for giving tenacity to the flour of grain. A small portion of ground rice answers, and makes it eat shorter.

5. Potato bread, in England. A skillet of potatoes with cold water is hung at some distance over the fire, that the water may not boil till the potatoes become soft. Then skin, mash, and mix them with their weight of wheat flour, and also with the yeast, salt, and warm water wanted. Knead all together. Lay the mass a little while before a fire to rise; then bake in a very hot oven, (Parmentier in the preceding paragraph is directly contrary.) Flour of rice or barley may be used instead of that from wheat.

6. Another English mode says; after long boiling, peel, select the most mealy, and bruise the potatoes. To take off any bitterness of the yeast, a little bran, milk, and salt are added; and after standing an hour, these are run through a hair sieve.

7. Another mode is given by the *Board of Agriculture*. It directs, to select the most mealy sort, and boil and skin them. Break and strain 12 lbs. potatoes through a very coarse sieve of hair, or a very fine one of wire, so as to reduce the pulp as near as possible to a flour. Mix this well with 20 lbs. of wheaten flour. Make and set the dough of this mixture exactly as if the whole were wheat flour. This quantity makes 9 loaves of 5 lbs. each, in dough; or when baked about two hours, 42 lbs. of excellent bread.

Doctor *Fothergill* says, if potato bread is cut before it is a day old, it will not appear enough baked; because of the potato moisture (Parmentier's mode, as above cures this by baking slowly.) He adds, never slice potatoes with a knife, raw or boiled, but break and mash with the hand or a spoon, otherwise they will not be soft.

Doctor *Lettsom* next proceeds to give the best soups; according to Mr. Justice *Colquhoun*.

1. Potato Soup.—Colquhoun.

Stew 5 pounds coarsest parts of beef or mutton, in 10 quarts of water till half done. Add a quantity of potatoes skinned, and some onions, pepper and salt.

* Some of the receipts say *boil*, others *stew*, others again, *boil over a slow fire*. Page 342 says, "never *boil soups briskly*, but leave them long, long over the fire, *simmering* rather than boiling." Doctor *Johnson* says, "It is material that soups be cooked in close stew-pans or vessels that will scarcely admit of any evaporation."

Stir frequently, and boil enough. Bones of beef added would increase the soup in richness or quantity.

Estimate in mills, †	5lbs coarse beef at 60 mills	300
	Bones, to enrich it	50
	Potatoes 24 lbs. or 1-3 bush.	20
	Onions a bunch	60
	Pepper and salt	60
		490

It gives 10 quarts of soup, meat and potatoes; and gives 10 men at nearly 5 cents. A red herring is said to be a good substitute for onions, pepper, and salt; but red pepper may be added. ‡

II Barley Broth.—Colquhoun.

It admits of a mixture of almost every kind of garden vegetable, and is never out of season. Onions or leeks and parsley are always a part of the ingredients; besides which, cabbage or greens, turnips, carrots and peas may be added. A teacup of barley suffices for a large family. Pearl barley is dearer, yet not so good as the common husked or Scotch dress'd barley. Water, 4 quarts. beef 4 pounds, with bones, barley, 4 ounces. Count Rumford says barley-meal is better than whole barley, for thickening broth, and making it more nourishing. Stew all together two hours. Then add the herbs cut small, and salt. The whole then boils till tender. Skim off the fat or not as you like it. Onions or leeks must not be omitted.

III A plain good food, with very little meat, and as wholesome as can be obtained from wheaten barley Colquhoun.

Cut half a pound of beef, mutton, or pork, into small pieces; add half a pint of peas, 3 sliced turnips, and 3 potatoes, cut very small; an onion or two or leeks. Put to them 7 pints of water, and boil the whole gently, over a slow fire for 2-2 hours. Thicken with a quarter pound of ground rice, and one-eighth pound of oat-meal, (or 1-4lb. of oat-meal or barley-meal, without rice.) Boil 1-4 hour after the thickening is put in, stirring it all the time. Then season with salt and pepper, or ground ginger. As only a pint will be lost in boiling, it is a meal for four persons, and will cost 2 cents each person.

IV. Cut into very small bits, 2 pounds of beef, mutton, or pork, out of the tub, or hung beef, freshened in water; and put them in a pot with 6 quarts water. Boil slow near three hours, or rather stew till tender. Add 1-4lb carrots or parsnips, and 1-2lb. turnips, all sliced small. Sometimes instead of them a few potatoes sliced; also add some greens, cabbage, celerery, spinach, parsley, and two ounces onions or leeks. Thicken with a pint of oat-meal, (or a quart, to make it very thick.) Boil all well together, and season with pepper, or ground ginger and salt. It will serve a family of six, for a day. Or it may be thickened with any kind of meal, or barley, beans, peas, or rice.

V. Take 4lbs. beef, onions 3-4lbs. turnips 2lbs., rice 1-2lbs parsley, savory, thyme, of each a large handful, pepper and salt; water 17 quarts. Cut the beef into pieces, and after boiling it some time, mince it small. The turnips and onions infused, and sweet herbs may be minced before they go to the pot. Boil the whole gently together about three hours on a slow fire. Scarcely two quarts will be wasted in boiling. The rest will serve 18 persons for one meal. Cost 2 cents each.

Where fuel is scarce, the materials in the three above receipts may be stewed in a pot, all night in an

† Small dealings are conveniently charged in mills, or in cents and mills. Ten mills make a cent, 100 cents, or 10 dimes a dollar.

‡ An English gentleman assures me, he often ate of a plain pottage or soup in Switzerland, which was very agreeable to him, and that having it made at his father's, on his return to England, the family liked it so well, that they often had it, though so plain and simple, as to be made only of potatoes skinned, boiled, mashed up and then stewed with some butter and salt, without any pot-herbs or spice; and yet these were opulent people used to good living. It is a good substitute for pea soup, and made of the same consistence.

oven, and will next day require but a quarter of an hour boiling.

VI. Bake in an earthen pot, a shank of beef in six quarts of water, with a pint of peas, a leek, and four or five turnips sliced.

Extracts from a Compendious Dictionary of the Veterinary Art.

[Continued from No. 26—p. 205.]

BLADDER, Inflammation of the. This disease does not often occur to horses or cattle; and when it does most commonly depends either on inflammation having spread to it from the bowels or other internal parts, or from the too free use of strong diuretics, which causes a defective secretion of mucous substance, by which the internal surface of the bladder is defended from the acrimony of the urine. The bladder being thus unprotected, and at the same time extremely irritable, every drop of urine that passes into it is immediately expelled with a violent and painful effort, and the animal is almost constantly endeavouring to stale, voiding only a few drops at a time. This appearance has sometimes led to the conclusion, that there is a stoppage in the neck of the bladder or in the urinary passage, and the bladder is full of urine; it will be found, however, on passing the hand up the fundament, that the bladder is quite empty. There is no difficulty in ascertaining this point; for when it is full it may be very distinctly felt through the gut, and forms a considerable obstacle to the passage of the hand. The frequent staling therefore, is caused by extreme irritability of the bladder, in consequence of its inflamed state. The above symptoms I have observed to take place also in inflammation of the kidneys; but here, in addition to the frequent and painful staling, there was a remarkable stiffness of the hind legs, when both kidneys were inflamed; but when the inflammation was confined to one, or much more in one than in the other, the stiffness was most observable on that side. (See *Kidneys*.) Bleeding is the first remedy to be employed; and, if the pulse is very quick, the inner surface of the eye lid red, and the breathing disturbed, not less than five or six quarts should be taken, provided the animal does not faint before this quantity is lost. Unless the bowels are in an open state, a pint of castor oil should be given, and any hard excrement there may be in the lower gut removed by means of glysters. Should there be any suspicion of the kidneys being at the same time affected, it will be proper to rub the loins well with the following mixture: Flour of mustard, two ounces.

Water enough to make it of the consistence of cream. After this, let a fresh sheep's skin be thrown over the loins, the flesh side next the skin. If the symptoms do not abate, the anodyne glyster is to be thrown up, and the following ball given once in six hours:

Camphor, one dram and a half.

Opium, half a dram.

Linseed meal and treacle enough to form a ball.

The horse should be allowed or made to drink freely of linseed infusion, or a solution of gum. When relief is not obtained, the pulse continuing quick, and the membrane of the eye red, and particularly if the blood first drawn is found to have buff on the surface the operation must be repeated; though it is probable that the disease will then have become highly dangerous; still it is the only chance that remains of saving the animal's life. Horses are often affected with irritability of the bladder, which causes them to stale much oftener than usual, but not with any pain, or in that very small quantity we have above described; and besides they feed well and are free from fever. I am inclined to believe, that this state of the bladder is sometimes induced by the pernicious practice of giving strong diuretics upon every trivial occasion. The best remedy for this is the infusion of linseed, or if this does not remove it, give the following ball:

Camphor, one dram and a half.

Opium, half a dram.

Nitre, six drams.

Flour and syrup enough to form a ball.

BLADDER, Inflammation of its neck. Mr. Blaine has informed us that "sometimes the neck of the bladder takes an inflammation alone, and that it is said to occur more frequently to horses than mares. It is to be distinguished from inflammation of the kidneys because in passing the hand up the rectum, the bladder will be found distended: this will also distinguish it from inflammation of the body of the bladder. The making a little water frequently will not distinguish this from the two foregoing complaints; for in inflammation of the neck of the bladder, there is frequently a small quantity of urine coming away at different times, for after the bladder becomes distended, there are by the force of the distension, a few drops forced out now and then. But in this complaint, the staling will not take place till the bladder is distended fully; whereas in the former complaints, it will come on at the very first." Mr. Blaine recommends bleeding, laxative medicines and stimulating the parts externally. "If the inflammation does not subside, so as to permit the urine to pass, it must be drawn off by artificial means, or the bladder may burst, or the irritation will kill, or gangrene will come on. In a mare, from the urethra being large, a catheter may be easily passed up, and the water drawn off; but in the horse, to effect this, an opening must be made from the perineum; but neither of these should be used till the effort of passing the hand up the rectum and pressing on the bladder has been tried, which will often promote the expulsion." In cases of distended bladder from retention of urine, there would be danger I conceive in pressing on the bladder as Mr. Blaine describes; in a mare there would be neither danger nor difficulty in drawing off the urine by means of a catheter; and in a horse, after bleeding and other remedies had failed, an incision may be made with a fety in the perineum, and a catheter passed thence into the bladder, without the painful and dangerous expedient of pressing on it. See *Urine retention and Suppression of*.

BLEEDING, BLOOD LETTING OR VENESECTION. The most important operation in farriery, not however on account of its difficulty or any particular skill which it requires, but because it is by far the most efficacious remedy in many dangerous diseases, to which horses and cattle are liable. It may be performed either with a lancet or a fleam; in skillful hands, and particularly when horses are shy and afraid of the bloodshed, the former instrument is certainly the best; but in general the fleam perhaps is preferable, as it requires but little dexterity, and by keeping instruments of two or three different sizes, we may command either a large or a small orifice.

Some farriers tie a cord round the neck, in order to raise the vein, that they may strike it with more certainty. This, though a clumsy method, and rarely necessary, does not appear to me so highly dangerous, as Mr. Clark has described it. Whenever it is found necessary however, as in mad staggers, the cord should not be applied, until the vein has been opened. The vessel for receiving the blood should be so marked on the inside, that the quantity of blood in it may be readily seen. The jugular or neck vein is more easily opened than any other, and on this account is generally chosen. Many farriers, however, prefer other veins in particular cases; in injuries of the shoulder, for example, they open the plate vein; and when the kidneys are supposed to be affected, the large vein on the inside of the thigh is considered the best. But there does not appear to be any just ground for this preference; and it is generally admitted, I believe, by veterinarians of the present day, that in all cases, where general bleeding is required, the neck vein is the most convenient, as any quantity of blood may be drawn from it with greater certainty, and much less difficulty, than from any other. The diseases in which bleeding is useful will be described elsewhere. (See *Inflammation, Fever, &c.*) It is sometimes employed also as a preventive; as in horses that are taken from grass to the stable, or from a state of poverty into good keep; in such cases however, it may ge-

nerally be dispensed with, if the change of situation and diet be brought about gradually, and the horse properly exercised. (See *Condition, Feeding, and Exercises*.) It sometimes happens, however, that this precaution is not attended to; and then if the horse should appear dull and indifferent about his food, and particularly if the membrane of the eyelid should appear red, he ought to be bled freely; and if in any degree costive, a dose of laxative medicine should be given. The practice of bleeding horses indiscriminately at certain periods is improper; but if they have been accustomed to such periodical evacuations, they often suffer from its omission.—It may not be superfluous to notice one case, which came under my immediate observation, in which bleeding proved fatal. A horse was brought to be bled, merely because he had been used to it at that season of the year; I did not examine him minutely; and as the groom stated that there was nothing amiss with him, I directed a moderate quantity of blood to be drawn—about five pints were taken off; and while the operator was pinning up the orifice, the horse fell. He appeared to suffer much pain, and had considerable difficulty in breathing. In this state he remained about twelve hours, and then died. On examining the body, a red coloured fluid was found both in the abdomen and thorax, but not in any considerable quantity; the lungs were in many parts of a dark red colour throughout; and in the pericardium, or heart bag, there was rather more than a quart of red-coloured fluid; from these appearances it is probable, that the loss of a moderate quantity of blood, caused a fatal interruption to the functions of the heart.

When a horse has been bruised considerably by a fall, kick, or otherwise, it is proper to bleed rather freely, and keep him on a cooling diet. I am inclined to believe also, that if a horse has been over-ridden, as sometimes happens in a severe chase—copious bleeding, if immediately employed, is the most likely means of relieving him. I have been led to this opinion from having examined two horses that died from this cause. One of them, an impetuous irritable horse, died about two hours after he came into the stable; the other survived about thirty hours. In both the lungs and right side of the heart were turgid with blood; in the latter the kidneys were highly inflamed, as well as the lungs and right side of the heart; but the bladder was sound and empty. The most conspicuous symptom however in this case, was a painful and almost constant effort to stale, without being able to void more than a few drops. The first had a small quantity of blood drawn, and was drenched with cordials; the latter also was bled, and pretty freely; but not till inflammation had made considerable progress.

(To be continued.)

FROM THE NATIONAL ADVOCATE.

Interesting to Emigrants,

Who understand the culture of the grape and making wine.

The state of North Carolina, East Tennessee, and the upper regions of Alabama, are admirably adapted to the growth of the vine. This is not mere opinion—the fact has been amply proved. Many farmers near Fayetteville, in North Carolina, have for years past, drank excellent wine, of their own making, from the native grape of the country. Gentlemen who have bought large quantities from these farmers when new, at the moderate price of one dollar per gallon, affirm, that when it acquires age, it is equal to the finest sherry. It continues to improve for more than ten years, and has an excellent body. Wine is made along Cape Fear River, from Fayetteville, to the sea, a distance of near 70 miles, and the farmers use it as freely as cider is used in N. England. A few of them cultivate the vine in their fields and gardens; most of them collect the grapes from vines growing on the trees without any cultivation. It is common for a farmer to make eight

or ten barrels of wine annually for his own use, and many sell considerable quantities of it.

The upper parts of N. Carolina, East Tennessee, and that part of Alabama, lying on the Tennessee river, are uncommonly healthy; more so perhaps, than any part of the Union. Provisions are very cheap and abundant, and the market for wine can never be glutted, as the amount consumed within the U. S., amounts to several millions of gallons annually. The almond the fig, and the olive, will grow in those regions. We are continually buying all these commodities, which we do not attempt to cultivate, and we are striving to raise more bread stuff, more cotton, and more tobacco, than the world can purchase from us. Why do not merchants who have capital left, instead of continuing to waste it on the unprofitable pursuits of commerce, form colonies of Swiss, of Germans, and of Americans, who can soon learn any kind of culture, and send them to N. Carolina, to East Tennessee, and to Alabama? The profits of such establishments would be certain and abundant, and the nation would soon acquire temperate habits by the use of wine as a common beverage, instead of ardent spirits, which ruin both health and morals.

The writer of this article earnestly begs that gentlemen from North Carolina, who have any knowledge of the wine district in that state, and the species of grape from which it is made, will communicate it to the public by means of the newspapers, as there are a number of Swiss now in this country, seeking information on this subject, and 2000 more would instantly come to our country, were they convinced that wine could be made in any of these U. States.

Gentlemen, who have attended to the culture of vines, will render this country an important service, by giving to the public a fair statement of the quantity of wine obtained from an acre of vines, in different parts of the world, and the amount of labour necessary to the culture, together with the usual profits accruing from the crop.

PLINY.

FOR THE AMERICAN FARMER.

DOMESTIC INDUSTRY.—No. II.

Baltimore September 28.

Mr. SKINNER—I cannot for my life keep that merino sheep, of which I sent you some account, out of my head. Its fate and the consequence of such management, to our country at large, intrude on my thoughts continually. From the number of those invaluable animals, brought into the United States in 1809 and 10 it would be easy to show, that had proper care been taken of them, the number of whole, half, and intermediate blood, now in the country, ought to exceed one million and that their fleeces would have produced more than as many yards of superfine cloth. This, at the moderate price of six dollars per yard, would, of course have now been saving annually the sum of six millions of dollars to the country; to circulate through the avenues of agriculture, trade and industry; instead of being sent out of it, never to return. It is true, our great economists can purchase dollars, in foreign countries, for paper; bring them home, and lock them up in the vaults of the great bank; but it happens some how, that those from whom they buy them, can slip them home again, with as much ease, as the showman took the gold ring from the lady, last winter, when she thought she was holding it hard and fast between her hands.

If we were now to add up the millions of dollars, drained annually from the country to pay for imported cloths, and compare the amount with what might have been saved; we would have little reason to boast of economy;—and as little to wonder at the scarcity of money.

But this is only one item in the account of our present distresses. I am informed that the amount of spirituous liquors, imported into the United States

during the year 1816 exceeded that of flour exported, by nearly ninety thousand dollars. Now, what would be thought of the farmer who purchase more spirituous liquors for himself and family, than all the grain he had to sell would pay for? Would it not be supposed, that he and his family were driving rapidly to ruin? And what is a nation but a great family? Will not the causes which tend to ruin the one, produce a like effect on the other? Our own country produces as palatable spirits, when properly manufactured and seasoned with age, as any other, and much less injurious to health than any imported. A respectable gentleman, who has for many years conducted a large iron manufactory, assured me, that while his hands drank spirits distilled from molasses, few of them stood it more than three years; but that since they took to spirits from rye, unless they went to great excess, he did not perceive that they were injured by them. But those who will risk their reputation, their health and their lives, and entail misery on their families, for the sake of pouring liquid fire down their throats, cannot be supposed to have much regard to the welfare of their country. But it does not follow, that the delegated parents and guardians of that great family, which the United States compose, should be equally indifferent to the interest and reputation of their children and wards.

COGITATIVUS.

Biography.

Col. J. E. Howard and Gen. O. H. Williams.

In Caldwell's Biography of Major General Greene, lately published, we find the following honourable mention of two Maryland patriots; one of whom is still left us by Providence, to contemplate the fruits of his valour and perseverance in a glorious cause, and to illustrate the sincerity of his youthful patriotism, by the continued practice of integrity and virtue.

A third officer, of great distinction in the southern army, was Col. HOWARD, of Baltimore. He commanded the second regiment of Maryland regulars; and for gallantry and firmness, decision of character, and sound judgment, was not exceeded by any officer of his rank, in the service of his country.

With great intelligence and skill in arms, he was one of those heroic spirits, on whom general Greene reposed his hopes during the time he was deepest in adversity, and in his high determination to recover the south, or perish in the attempt.

Although he had been in commission, first, as captain, and afterwards as major, from the month of June, 1776, he does not appear to have been much engaged in action, until he took his station at the head of a regiment, in the southern army.

Accomplished in tactics, and ripe in experience, although only now in his twenty-seventh year, he was in all respects, fitted for the operations of the field.

Accordingly, no sooner did an opportunity for action present itself, than his valour, as a soldier, and his reputation as a commander, became conspicuous in the midst of the accomplished and the brave.

His brightest laurel was gathered at the Cowpens, where, assuming to himself the responsibility of the act, he charged without orders, and at the point of the bayonet, discomfited and scattered a party of the enemy, superior in number to his own command and consisting of the flower of the British army.

His interview, immediately after the action with general Morgan, the commanding officer, was eminently interesting; and, were other evidence wanting, shows on how precarious a footing stands the reputation and the life of a warrior.

"My dear Howard," said Morgan, cordially pressing his hand as he spoke, "you have given me victory, and I love and honour you; but had you failed your charge, which you risked without orders, I could have shot you."

Previously to this, colonel Howard had distinguish-

ed himself among those, who by their gallantry and good conduct, had sustained the character of the American arms, and prevented the utter destruction of the forces, in the battle near Camden, where Gates was defeated.

Nor was he entitled to less applause, for the spirit and judgment, which he afterwards displayed at Guilford, Hobkirk's Hill, and the Eutaw Springs; at the latter of which he was severely wounded.

But a letter from general Greene, dated November 14th, 1781, to a friend in Maryland, is conclusive, as to the military reputation of colonel Howard.

"This will be handed to you," says the general, "by colonel Howard, as good an officer as the world affords. He has great ability, and the best disposition to promote the service. My own obligations to him are great—the public's still more so. He deserves a statue of gold, no less than the Roman and Grecian heroes. He has been wounded, but has happily recovered, and now goes home to pay a little attention to his private affairs, and to take charge of the fifth Maryland regiment, recruiting in your state."

"With great respect and esteem,

"I am, dear sir, yours,

"N. GREENE"

Colonel Howard was born June 4th, 1752, on his ancestral estate, near the city of Baltimore. His paternal ancestors were from England, his maternal from Ireland. The descendant of a gentleman, easy in circumstances, his education was such, as his rank and fortune entitled him to receive.

On the conclusion of the war, he married Miss Chew, daughter of the honourable Benjamin Chew, of Philadelphia.

Contented and happy in domestic life, and much occupied with his private affairs, he has never sought political honours, but left others to govern the country, which he, by his valour, had contributed to set free.

He still resides on his patrimonial estate, surrounded by a large and respectable family, pre-eminent in affluence, and passing the evening of his life in that dignified and felicitous retirement, which a high and unsullied reputation, a peaceful conscience, a cultivated intellect, and polished manners alone can bestow.

A fourth officer, uniting in himself all that gives dignity and worth to the private citizen, and excellence to the commander, was colonel ORIO H. WILLIAMS, also a native of the state of Maryland.

This gentleman was formed for eminence in any station. His talents were of a high order, and his attainments various and extensive. Possessing a person of uncommon symmetry, and peculiarly distinguished by the elegance of his manners, he would have graced alike, a court or a camp.

Rich in that species of military science, which is acquired by experience, and a correct systematic, and severe disciplinarian, general Greene confided to him the important trust of adjutant general to the southern army. The services which in this and other capacities, he rendered to that division of the American forces, in the course of their toilsome and perilous operations, were beyond all praise.

He was born in the county of Prince George, in 1748, and received, during his youth, but a slender education. This he so much improved by subsequent study, that few men had a finer taste, or a more cultivated intellect.

He commenced his military career, as lieutenant of a rifle company, in 1775; and in the course of the following year, was promoted to the rank of major, in a rifle regiment.

In this corps, he very honourably distinguished himself, in the defence of Fort Washington, on York Island, when assaulted by Sir William Howe; and on the surrender of that post became a prisoner.

Having suffered much by close confinement, during his captivity, he was exchanged for major Ackland, after the capture of Burgoyne, and immediately rejoined the standard of his country.

Being now promoted to the rank of colonel of a

regiment of infantry he was detached, under the baron De Kalb, to the army of the south.

General Gates having been appointed to the command of this division of the American forces, he was present with that officer, at his defeat before Camden; and during the action, manifested great valour and skill in directing and leading the operations against the enemy, while resistance was practicable; and an equal degree of self-possession and address, in conducting the troops from the field, when compelled to retreat.

But, as an officer, his valour and skill in battle, were among the lowest of his qualifications. His penetration and sagacity, united to a profound judgment, and a capacious mind, rendered him, in the cabinet, particularly valuable.

Hence he was one of general Greene's favourite counsellors, during the whole of his southern campaigns. Nor did any thing ever occur, either through neglect or mistake, to impair the confidence thus reposed in him. In no inconsiderable degree, he was to Greene what that officer had been to general Washington, his strongest hope, in all emergencies, where great policy and address were required.

This was clearly manifested by the post assigned to him by general Greene, during his celebrated retreat through North Carolina.

In that great and memorable movement, on which the fate of the south was staked, to Williams was confided the command of the rear guard, which was literally the shield and rampart of the army. Had he relaxed, but for a moment, in his vigilance and exertion, or been guilty of a single imprudent act, ruin must have ensued.

Nor was his command much less momentous, when re-crossing the Dan, Greene again advanced on the enemy. Still in the post of danger and honour, he now, in the van of the army, commanded the same corps, with which he had previously moved in the rear. But of these operations, it will be our business to speak more particularly hereafter.

A military friend, who knew him well, has given us the following summary of his character:

"He possessed that range of mind, although self-educated, which entitled him to the highest military station, and was actuated by true courage, which can refuse, as well as give battle. Soaring far above the reach of vulgar praise, he singly aimed at promoting the common weal, satisfied with the consciousness of doing right, and desiring only that share of applause, which was justly his own."

"There was a loftiness and liberality in his character, which forbade resort to intrigue and hypocrisy, in the accomplishment of his views, and rejected the contemptible practice of disparaging others to exalt himself."

"In the field of battle, he was self-possessed, intelligent, and ardent: in camp, circumspect, attentive, and systematic: in council, sincere, deep, and perspicuous. During the campaigns of general Greene, he was uniformly one of his few advisers and held his unchanged confidence. Nor was he less esteemed by his brother officers, or less respected by his soldiery."

THE FARMER.

BALTIMORE, FRIDAY, OCTOBER 1, 1819.

Revolutionary speeches, documents, &c.

It would be superfluous in us to say any thing in explanation or in recommendation of Mr. Niles's patriotic undertaking to embody on record the "principles and acts of the revolution," as far as materials for that purpose can yet be recovered, from the accumulating ruins of all-devouring time.

The object of such an undertaking, and the policy of giving it encouragement, must strike at once on the heart, and command the approba-

tion of all, with whom those principles and acts are held in veneration.

Mr. Niles solicits further contributions of interesting documents connected with that epoch, and says,

"In the present gloomy state of the times, there is but little encouragement to do any new thing, requiring an expenditure of money; but it appeared to the editor that if he did not commence the work now, he should be compelled to abandon it altogether. The number printing is only 1500, of which more than 500 are engaged—and its number will be reduced unless the copies are spoken for very speedily. Pecuniary profit is a secondary consideration in this matter; but the editor is resolved not to invest money in printed paper to remain on his hands, if he can avoid it.

"It is expected that the volume will be about the usual size of those of the *Weekly Register*; not as attached to that work, but to match it for such of the subscribers thereto as please to possess it; that is, it will make a volume of between 4 and 500 pages of super-royal octavo, and be printed on brevier type, for three dollars each copy—a price, which considering the quantity of matter to be given, will not be thought unreasonable. If what shall be deemed revolutionary affairs, in sufficient quantity, and suitable quality, to fill the volume cannot be had, the number of pages shall be made up of more modern things, but of the *old fashion*. The work will be delivered folded and collated, ready to be put into the hands of the binder.

"Subscriptions are solicited—they will be received by the editor, or his agents, in all parts of the United States. Publishers of periodical works friendly to the undertaking, will oblige us by noticing this prospectus."

Current prices of country produce, ascertained for the American Farmer, by actual sales within the last week.

Maryland Tobacco.—Different sales of crop tobacco have been made at \$10, 10 50, 11, and 12 50—second, at 8 and 9.—Virginia Tobacco—8 hhds. sold by Mc Donald and Son, for \$8.—Wheat may be quoted at from \$1 06 to 1 10, sales having been made at those two prices.—Corn, 62½ cents.—Rye 52 cents.—Oats, as last reported.—Whiskey, from the wagons, 41 cents.—Flour, \$6—Oak wood, per cord, \$4 to 4 50.—Hickory, \$6 50.—Potatoes, sweet 37½ cents per peck: Irish do. 37½ do.—Butter, 25 to 37½ cts. and not much fit to eat.

WORTHY OF IMITATION.

In farming, as in all things, *care and cleanliness* find their just reward in purer health, greater respectability, and increased emolument. The latter effect was happily exemplified this week, in the sale of a lot of 900 bushels of *white wheat*, sent to this market by TENCH TILGHMAN, Esq. of the Eastern shore of this state.

A sample of it is lying before us, and for perfect cleanness and *entire* freedom from garlic, cockle, nay even from dust, it equals any ever seen in any market. A proof of its fine quality is, that it sold for \$1 25, at the same time that other wheat of the same species, less perfectly cleaned by different process, would not bring at the highest, more than \$1 14, making a dif-

ference on this load, of \$99, in favour of *care and nice management*.

It is not known what the machinery cost, with which this beautiful wheat was cleaned, but probably not more than the sum gained on these 900 bushels. How long then will farmers go on in the old way, *treading out* with mules and horses, and then waiting for a strong *northwester* to *wind* it out?

It is observed, that Messrs. DAWSONS have for sale some imported Threshing Machines of convenient moveable form. We do not know the price, nor have we seen the machine, but we have heard them several times highly spoken of, for their convenience, simplicity and efficacy. We shall endeavour to obtain accurate and satisfactory information about them, for it is quite apparent, that until the farmers of our state get into the habit generally, of cleaning their grain by *machinery*, they must never expect to enjoy the reputation of good farmers, nor can our market acquire that high character abroad, of which it is so easily susceptible.

A small fund should be raised by Agricultural Societies, for the introduction into each neighbourhood, or county at least, *one* of all the newest and best agricultural implements—let their operation be exhibited for a short time at the county towns—say at the meeting of the courts. This would lead to their general adoption, and consequently to the great saving of labour, and to the best modes of practical agriculture.

Economy and Manufactures.

At Cincinnati, the citizens have carried into effect their previously expressed determination, to form a society for the promotion of agriculture, manufactures and domestic economy. General HARRISON is the President of the society. They closed their proceedings on the 23d ultimo, with the following declaration, grounded on the opinion, that a retrenchment in the expenses of living, will be an important mean of alleviating the difficulties and pecuniary embarrassment of the country.

"We will not purchase or suffer to be used in our families, any imported liquors, fruits, nuts, or preserves of any kind, unless they shall be required in cases of sickness.

"Being convinced that the practice, which generally prevails of wearing suits of black, as testimonials of respect for the memory of deceased friends, is altogether useless, if not improper, while it is attended with a heavy expence, we will not sanction it hereafter in our families, or encourage it in others.

"We will not purchase, for ourselves or our families, such articles as are expensive, and are generally considered as ornamental rather than useful.

"We will abstain from the use of imported goods of every description, as far as may be practicable; and we will give a preference to articles that are of the growth and manufacture of our own country, when the latter can be procured.

"We will not purchase any articles, either of food or dress, at prices that are considered extravagant, or that the citizens generally cannot afford to pay, but will rather abstain from the use of such articles, until they can be obtained at reasonable prices.

"We will observe rigid economy in every branch of our expenditures, and will, in all our purchases be influenced by necessity rather than convenience, and by utility rather than ornament.

"We believe that the prosperity of the country depends, in a great degree, on a general and faithful observance of the foregoing declaration—we therefore promise that we will adhere to it ourselves, and that we will recommend it to others."

It would be well for the country, if associations similar to that at Cincinnati, were formed in every town and village throughout the states.

FOR THE AMERICAN FARMER.

DOMESTIC INDUSTRY....No. 3.

MR SKINNER,

A poor woman called on me yesterday, soliciting some help. She informed me that since the death of her husband, which happened four years ago herself, her son, and three little daughters, had earned a comfortable living in one of our cotton factories; but that from the badness of the times, the owners of the establishment could neither sell the goods on hand, nor procure money to purchase more cotton; and were of course obliged to discharge almost the whole of their people; that she and her family were very willing to work, but could find none, and were reduced to absolute want.

This is a far more melancholy tale, than the death of the merino sheep. What! people reduced to absolute distress, in this country for want of employment, where so much is to be done, where the constant labour of millions is wanted for ages, to bring it to national perfection! Out of employment in cotton factories, when the raw material used in them is produced in such abundance at home, and is now exported for a trifle to other countries, where thousands are kept in employment, by manufacturing it for our use. What would we think of the man, who kept the members of his own family *idle and starving*, while he employed others, and paid them for doing the work of his own? Would he not be reckoned insane? And where lies the difference between a nation and a family, acting the same part? Or is that to be styled wisdom in a nation, which would be pronounced madness in a single family?

From the quantity of manufactured articles imported yearly into the United States, it would be easy to show, that more than one hundred thousand persons are daily employed in foreign countries, working for us; and that too, on raw materials, which our own country does, or can yield as plentifully, and of as good quality, as any other.

Yet, we are daily called upon to extend relief to persons of both sexes, who are as able and willing to work for their living, as those of any other nation. Charity should begin at home; and the most important species of it is, to find employment for all who are able to work. Where then the policy, where the humanity of extending this kind of charity, so abundantly to foreign nations, to the neglect, to the ruin of the industrious poor among ourselves? Are our widows and orphans to want employment and food, or be fed by alms in order that thousands on the other side of the Atlantic, may have work, food and raiment? Are our most ingenious fellow citizens, to languish for want of employment, that the foreign artificers in iron and steel ware, in porcelain and in glass, may be encouraged and rewarded? Is it with this view, that even the *ramrods*, for the small arms of the United States, are imported from abroad? Will any of us say, that our genius for the mechanic and the useful arts, is not equal to that of any other nation on the globe? Or that we have not the materials for those articles, and of many others in as great abundance and perfection, as any of those have, from whom we receive them? Finally, I would ask, are the extensive capitals, embarked in manufactures by the *real* friends of our country and the large establishments they have elected, to be sacrificed for the accommodation of *rich and poor* in other countries? If so, our hopes, and the hope of our *poor* are vain, and the disease incurable.

COGITATIVUS.

PRINTED EVERY FRIDAY,
For John S. Skinner.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norunt
Agricolae." . . . VIRG.

VOL. 1.

BALTIMORE, FRIDAY, October 8, 1849.

NUM. 28.

AGRICULTURE.

(Communicated for publication in the American Farmer.)

CONSTITUTION OF THE SOUTH CAROLINA AGRICULTURAL SOCIETY.

We, the subscribers, in order to improve agriculture and economy, do hereby form ourselves into a society, and for its government, adopt the following constitution;

Art. 1. This society shall be styled, *The South Carolina Agricultural Society*.

Art. 2. The objects of the society shall be, to discover new and hidden manures, to facilitate the collection of manures generally, and designate the best mode of their application to the different objects of cultivation. To procure and improve the implements necessary in husbandry; to improve the style of rural architecture; to improve the breed of domestic animals; to devise means for destroying vermin and insects, which are injurious to husbandry, avoiding their devastations, and guarding against other casualties; to collect all foreign and domestic trees, shrubs, vines, plants, seeds, and grains, which may be deemed necessary or useful for subsistence or comfort; for live fences, fuel, or timber; and to make the necessary experiments as to their growth and adaptation to our climate, and different kinds of soil; and, if approved, to extend and promote their growth and culture; to discover, if possible, new and profitable objects of commerce, from the products either of the field, the forest, or the bowels of the earth; and whatever else shall tend to improve the agriculture and rural economy of the country. And the better to effect the above objects, which are hereby declared to be unalterable, and from which the society will never depart, it shall so soon as its funds are sufficient for that purpose, purchase or procure lands for one or more farms, on which to make its experiments.

Art. 3. Any person may become a member of this society, who will subscribe his name to the constitution, or signify by letter his wish to become a member, and who shall at the same time pay into the hands of the treasurer five dollars; and every member shall pay into the hands of the treasurer, at each annual meeting thereafter, the sum of five dollars, except those who may be members for life. Any person who will, at the same time of subscribing, or at any time thereafter, pay into the hands of the treasurer fifty dollars, shall be a member for life. Each member shall remain such, until he signify his intention to quit the society at an annual meeting, when upon paying all arrearages, if any be due, he may cease to be a member.

Art. 4. Honorary members, on being proposed at any meeting of the society, may be elected by ballot by a majority of the members present.

Art. 5. The society shall meet annually on the Tuesday after the first Monday in December, at nine o'clock in the morning; but special meetings may be called by the board of managers. The annual and special meetings shall be held in Columbia, at such place as the board of managers may provide.

Art. 6. The society shall have a president, four vice-presidents, a corresponding secretary, a recording secretary, a treasurer, and five curators, to be elected by ballot at each annual meeting, by a majority of the members present; and who shall continue in office, until a new election shall be made. They shall be styled, "The Board of Managers of the South Carolina Agricultural Society," a majority of whom shall constitute a quorum to do business. The board shall possess all the executive powers of the society, except such as are specifically assigned by this constitution, and shall apply and disburse all moneys appropriated by the society, according to the directions of the society, if any be given; but if no directions be given, then according to their own discretion and judgment; and shall report at each annual meeting a full statement of their proceedings during the preceding year. The board shall have power to fill any vacancy occurring in that body, and shall meet regularly on the last Saturday in every month, and also at any other times that they may think proper. It shall be their duty to propose at the annual meetings of the society, any alteration in the constitution, which they may deem expedient.

Art. 7. The president, vice-presidents, secretaries, and treasurer, shall be the officers equally of the society and of the board.

Art. 8. The president shall preside in all the meetings of the society and of the board, to whom all motions shall be addressed, and by whom all decisions and votes of the society or board shall be declared in the absence of the president, the senior vice-president present, and in the absence of these officers, any member who may be appointed, shall preside for the time being.

Art. 9. The corresponding secretary shall inform honorary members of their election, explain to them the objects of the society, and respect fully solicit their co-operation. He shall read to the society, all communications and answers which he may have made or received during their preceding recess, and shall make communications of such a nature, and to such societies, bodies, and individuals, as the society or the board shall direct. He shall preserve in a book to be provided for the purpose, copies of such communications, and regularly file all letters and communications, which may come into his possession relating to his office.

Art. 10. The recording secretary shall attend all the meetings of the society and of the board, record all their proceedings, keep a regular list

of the names of the members, with the amount of their annual or life subscriptions; of all donations to the society, with the names of the donors; all of which shall be open to the view of the society and of the board at any meeting.

Art. 11. The treasurer shall faithfully take care of all moneys and specialties belonging to the society, collect the amounts when due, and keep a regular account of receipts and disbursements, so as to be able to exhibit the state of the funds to the society or board, whensoever required by either. He shall not pay any money out of the funds of the society, unless by an order of the board, signed by the president, or officer presiding in his place. He shall be entitled to receive two and one half per cent. on all moneys which he receives, and the same amount on all that he pays out. He shall give bond with security, to be approved of by the board, for the faithful performance of his duties.

Art. 12. The curators shall take the charge and care of all the property and articles belonging to the society, except such as are specifically assigned to other officers. They shall also take measures for collecting all native fossils, earths, and substances, proper for manures or deemed so to be, and to cause or procure the same to be analyzed; to promote experiments to be made by careful agriculturists of any such fossils, earths, or substances, and to procure in every practicable way, explorations for the discovery of native substances, either known, or presumed to be manures, or auxiliaries in fertilizing land, to take proper measures for making botanical researches, and experiments of such researches; to collect models of the best agricultural instruments, to cause them to be deposited in the apartments of the society, to keep minutes of their proceedings, and to make a report thereof at the annual meetings of the society.

Art. 13. This constitution may be altered at the annual meetings of the society; but no alteration shall be made, unless it shall first have been recommended by the board of managers, and then sanctioned by the votes of two-thirds of the members present; provided, that not fewer than thirty of the members are present; but the quorum to transact the ordinary business of the society, shall consist of thirteen members.

Ratified this 6th of June, 1818.

The society then proceeded to the election of officers, and the ballots being counted, the following gentlemen were chosen:

President—Gen. William R. Davie.

Vice-Presidents—Col. Francis K. Huger, Col. John Taylor, Col. John J. Chappell, Col. Wade Hampton.

Corresponding Secretary—Dr. Edward Fisher.

Recording Secretary—David J. M-Cord.

Treasurer—James S. Guignard.

Curators—Mr. Nicholas Herbemont, Dr. James Davis, Mr. Zebulon Rudolph, Mr. John Howell, Mr. Jesse M. Howell.

The president, Gen. Davie, not being present, Col. J. J. Chappell, vice-president, took the chair, and the following resolutions were passed:

Resolved, That the sum of one hundred and fifty dollars be, and the same is hereby appropriated, to be at the disposal of the board of managers for the ensuing year.

Resolved, That the proceedings of this society, together with its constitution, be published in both the papers of this town, under the direction of the corresponding secretary.

J. J. CHAPPELL,
Vice President.

D. J. McCORD, Recording Secretary.
June 8, 1818.

AN ADDRESS,

Delivered before the *South Carolina Agricultural Society*, at their anniversary meeting, held in Columbia, on the 8th of December, 1818, by WILLIAM R. DAVIE, Esq. president of the society; together with the report of the curators of the preceding year.

Gentlemen,—

The specific enumeration of the objects and duties of the society, contained in the constitution, might supercede the necessity of any address on the present occasion. This, however, being the first meeting of the society since its organization, I feel it as a kind of duty to submit to your consideration a few observations on the present state of agriculture, and the leading objects of our association.

Agriculture, manufactures, and commerce, are the acknowledged physical sources of national wealth and prosperity; and the God of nature seems to have decided for us the great question of preference, so long agitated by political economists. Agriculture has been the principal occupation of the people of South Carolina, from the earliest settlement of the country, and continues to maintain its ascendant in their estimation, as the most productive employment of capital or labour.

The sea-board range, that highly favoured portion of the state, produces in the greatest perfection, the richest staples of our country; and I have taken it for granted, that the union of experience, capital, and skill, have probably produced all the improvement in the culture of rice, of which this interesting article is susceptible. The superiority which this valuable product maintains in the foreign market, is strong evidence of its excellent cultivation, as well as the improved means of preparing it for consumption and sale.

I presume that the tide swamp, appropriated to the cultivation of rice, still preserves its original fertility, as both the course of preparation and culture have rather a tendency to improve than deteriorate the productive powers of this peculiar soil. The cotton lands, I am aware, cannot possess these important advantages; but my acquaintance with this part of the state, is not sufficiently intimate to authorize me to make any observations on the nature of its various soils, or the present state of agriculture in this interesting section, diversified by so many peculiarities, derived from difference of soil, situation, and climate. But I permit myself to hope, that the fortunate proprietors of these produc-

tive lands have not abused the bounty of a beneficent Providence, by falling into the apathy and errors, which have marked the progress of agriculture in other parts of the state.

Scarcely have three fourths of a century passed, since the emigrants from Pennsylvania, and the upper parts of Virginia, commenced their settlements in that range of the state situate above the line of the long leaved pine. The whole aspect of the country from this line to the mountains, including two thirds of the geographical surface of the state reduced to cultivation, and at least three fourths of the white population, presents every where to the eye, a broken or undulating surface. A number of large rivers descend from the mountains, running nearly parallel to each other. The dividing ridges are again intersected by their lateral and tributary streams, forming deep valleys, and throwing the whole surface of this country into a continued succession of ridges and isolated hills, peculiarly exposed, under the corn and cotton culture, to having the soil washed off by the heavy rains of every season.

A large proportion of this extensive and once fertile range of country, has been cleared for cultivation, in a kind of succession extremely unfavourable to the preservation of its fertility. The means of the first settlers were generally confined to their own personal efforts. Removing the timber, and fencing the land, was an appalling effort to a single individual. A few acres, commensurate only with the demands of immediate subsistence, were cleared; these were cultivated until they were nearly exhausted, when another effort was made, and another field added. When this was also worn out, they had recourse again to the woods, and no means were used to preserve the new additions from exhaustion, or to restore the old worn out land. The course of crops adopted by the first settlers, was comparatively favourable to the soil, being an alternate change of corn and small grain; but this manner of cropping obstinately continued without rest or manure, necessarily exhausted the fertility of the soil; and this fatal result was accelerated by grazing the fields in the summer and autumn after every crop.

The introduction of the cotton culture makes a distinguished epoch in our agricultural annals, and gave a strong stimulus to industry. Large quantities of land have been cleared within the last twenty years, and a new tax was now imposed on the strength of the soil, compelled to bear alternate crops of corn and cotton, or successive crops of the latter. This system, if it may be so called, of perpetual exhaustion, has impoverished our lands to an alarming degree, and, if pursued for half a century more, would make this interesting portion of the state a perfect desert—exhibiting a naked barren surface, spotted here and there by a few patches of broom-straw, or starved shrubbery, and ruined from future recovery by deep washed gullies, the permanent and accusing witnesses of our apathy and indolence. The middle range of the state presents generally a level surface. The cultivated land is confined principally to the borders of the water courses, and the intermediate space is known under the descriptive denomination of pine barrens. In this tract of the state, the alluvial soil

along the banks of the large rivers, has baffled the efforts of a ruinous culture, by its depth, richness, and annual additions; and the equality of the surface has preserved the land generally from the dreadful effect of washing rains. But the same murderous system of culture has been pursued, and almost every plantation beyond the line of alluvial deposit, exhibits a frightful picture of extreme exhaustion, with a few exceptions, highly honourable to the foresight and industry of certain individuals, whose successful example has unfortunately had little effect upon their neighbourhood.

The contemplation of this faithful portrait, in which a few of the prominent features have been barely sketched, without any colouring to excite the imagination, must be painful to the real agriculturist, and truly distressing to the patriot, whose views are not limited to the paltry profits of a few years, to be followed by emigration, but extended to the interests of posterity, and the lasting welfare of his country. It is a lamentable fact, that the generality of our citizens cultivate their lands, as if they were but tenants at will—as if there was a general presentiment, that we were all sooner or later destined to join in the current of western emigration; and upon our present wretched system of agriculture, this presentiment is not illy founded. Apathy, or ill-directed avarice, looking only to the advantages of the present moment, may operate as decisively as the mandate of a despot to banish us from our country.

Whatever may be the opinions of political economists as to the real sources of wealth and prosperity to a nation—whether these great objects depend upon agriculture, or commerce and manufactures—our resources being decidedly agricultural, wealth may be correctly defined with us to consist of a sufficiency of capital, and of cultivated and productive land. Hence it follows, if we possess a soil, which is productively cultivated, and yields a considerable revenue to the land-owner, we may be said to be wealthy; but, on the contrary, if our lands are badly cultivated, and yield but little revenue to the proprietor, our country may be truly said to be poor. To every South Carolinian, who feels an interest in the welfare and character of his country, and who extends his ideas farther than the present moment, it must excite the most distressing sensations to reflect, that in a few years, perhaps a period less than since the settlement of our country, this state is destined to lose the source of her political importance, and after having maintained a distinguished pre-eminence in the southern section of the confederacy, is at length doomed by her own children, to retrograde into poverty and insignificance.

The views we have taken of the present state of agriculture throughout the middle and upper ranges of the state, will, I hope, be sufficient to enable us to discover the nature and source of those imperfections in our rural economy, which now appear to menace us with such serious consequences.

A leading error which has operated so powerfully to impoverish our lands, has been severe and successive cropping the same land, connected with the fatal error of grazing the same fields, after the crop has been taken off; the result of

this course of a perpetual succession of exhausting crops on the land, without rest or manure, or the intervention of any improving crops, is so obvious, that any observations on this part of the subject, to the members of this society, would be mere common-place. Lands we see sink under successive cropping, and this effect must be greatly accelerated by the ruinous practice of grazing the fields under circumstances most likely to prove injurious; the land already sufficiently exhausted, is again taxed the same season, by being grazed to the naked earth, and when the plough returns there is not a straw or a blade of grass to be restored to the exhausted soil; this is plainly making ruin "doubly sure." "What stronger proof," says a distinguished cultivator, "can exist of our agricultural ignorance, than a notion of succeeding in both lines on the same land, by respectively violating the first principles of both; to succeed in grazing, it is necessary to cover the earth with a strong and rich turf, to succeed in agriculture, this turf must be destroyed; thus we propose to raise large stocks without grass, and large crops on land rendered too poor to produce them." This destructive course has been adopted, as the easiest means of supplying the defect of the natural range, and the want of a regular provision by other means of winter food; but appropriate pastures on a congenial soil, and meadows cultivated in the productive grasses, are the proper means of supporting our stock, fertilizing our lands, and avoiding the ruinous absurdity of uniting tillage and grazing at the same time on the land; the greatest part of our plantations contain a variety of soils, but even those who have to struggle with natural disadvantages in raising stock, will not find much difficulty in surmounting them, by a judicious choice of the necessary means.

In the upper part of this state, these evils have been greatly increased by indiscriminate and shallow ploughing—Indian corn is generally cultivated in this section, by ploughing "both ways" even in the most broken land, and frequently "laid by" in the planters' phrase, in the last ploughing up and down the hill; the loosened soil is then swept off by every rain, aided by the plough in summer, and the frost in winter. To remedy this evil in the hilly parts of Scotland, lord Kaimes recommended oblique ploughing to his countrymen—the furrows making such an angle with the declivity of the hill as to give the water a more gentle descent: this was certainly an improvement; but the horizontal direction now practised in Virginia, connected with deep ploughing, is in my opinion, a preferable mode; and the most likely yet suggested to protect the soil from the washing effect of heavy rains. Shallow ploughing has been one of the principal means of impoverishing the lands in the upper country, and its baneful effects may be traced in almost every part of the state; the soil left loose for the depth of two or three inches, opposes little resistance to the weight of the water, which is soon accumulated on the surface by not being able to penetrate deeper, and the soil is then carried off irrecoverably to the valleys or branches below. The ploughs in general use are only calculated for this kind of shallow tillage, and a change in this important instrument

of agriculture must be effected, before this evil can be sufficiently remedied. Improvements in the implements of husbandry have, in every country, generally kept pace with the progress of the science of agriculture, and the skill and capital employed in it; yet with us they are still in a very imperfect state. The ease with which abundant crops have been raised on fresh and fertile lands, has rendered attention to this subject less necessary; but the period has now arrived, when art and industry must supply the failure of native fertility. I am well aware of the attachment of the husbandman to the implements with which he has been accustomed to work from his infancy, and that some difficulty may be anticipated in introducing any change; but upon examining the general agriculture of the state, every plantation presents some plan or feature, new or at least peculiar, and our agriculture appears every where like an individual essay. From these circumstances we may reasonably infer we shall not, as in similar attempts in the old countries of Europe, have ancient and stubborn prejudices to combat, prejudices which make ignorance and error descend as a sacred inheritance from one generation to another. I think we have strong grounds to hope that we shall meet with minds ready and eager to adopt any rational improvement, stimulated by the spirit of enterprise, which is the peculiar attribute of a freeman, the proprietor and cultivator of a grateful soil. I would therefore submit to the consideration of the society, the propriety of supplying the proper officers, with ample means for making a complete collection of the most approved implements of agriculture, to be kept for inspection at Columbia, where they could be examined with the most convenience by our fellow citizens.

The possession of any thing, which contributes to the comfort and happiness of man, may be considered as wealth, but this general term wealth when applied to a nation, must always possess the important attribute of durability. The merchant may be rich by the possession of consumable luxuries, and the nation rendered poorer by their acquisition and consumption. Thus a productive soil may be justly esteemed the most solid species of national wealth; but to sustain this character, it is necessary that the soil should also maintain this distinctive quality—it *must be permanently productive.*

In the short and necessarily rapid view which we have taken of the present state of agriculture, it is plain, that although a considerable part of the land subjected to cultivation may still remain in good heart, yet a large proportion is either entirely worn out, or now in the last stages of exhaustion—that we have arrived at that period, when there must be a complete change in our system of agriculture, or give the death-blow to the remaining productive powers, and consequent value of our lands. On this subject, however serious the aspect may be, there is no occasion for despondency. A bountiful Providence has placed within the reach of intelligence and industry, a profusion of means for fertilizing the soil. The earth—all the elements which surround us, may be compelled, under the direction of man, to contribute to this important object—an object so evidently connected with the

great and benevolent views of Divine creation. Among the manures of mineral or fossil origin, lime, marle, and gypsum, have been the subjects of extensive experiment, both in Europe and America. Lime may be conveniently procured in some parts of the state, and marle I have no doubt may be found in abundance in almost every district; but some difficulty may exist for a short time, in obtaining a sufficient quantity of gypsum to enrich such an extent of impoverished country, placed principally beyond the range of water carriage; this evil will, I hope, soon be remedied by the spirit and enterprise of our government; when we shall see this powerful ally of the vegetable plan of improvement, distributed from the boat in every district of the state, imparting life and activity to our industry and agricultural improvements.

Without detracting from the merits of the Tullian system of fertilizing the earth by increasing its friability, and thereby its means of absorbing atmospheric manure, for merit it certainly possesses, it is principally through the agency of the vegetable creation, that we may command in the greatest extent, the inexhaustible resources of the atmosphere. Under this class of manures, the produce of the farm yard may be ranged—by this easy and simple process, every species of the refuse and offal of a plantation may be converted into the most efficient means of fertilizing our fields. The obvious sources for forming this kind of artificial manure, are the straw of small grain, the offal of animals, and the litter of Indian corn; materials furnished on every plantation, now generally neglected, and frequently destroyed as a nuisance. The production of Indian corn, is perhaps one of the greatest efforts of nature, and it may justly be considered an exhausting crop; but the litter which it furnishes to the stable and the farm yard, under proper management, makes an ample return to the earth, and thus it has been justly observed, "it yields food in abundance for man, beast and land."

I confidently hope, that the society will soon be enabled to disseminate important information on the best mode of forming and applying these artificial manures. Various means may be suggested by experience to increase the quality, and economise the powers of this species of manure, while the manner and time of application to our peculiar crops must also become objects of importance.

Leguminous crops, when planted and preserved with a view to improving the soil, range also under the head of vegetable manure; the common field Pea has been cultivated in North Carolina with this view, and with great success, by being planted among the Indian corn, in what is technically called 'the step,' or sowed broad cast when the crops are 'laid by.' This whole class of plants are supposed to attract a great part of their nourishment from the atmosphere; the earth it shaded, evaporation is prevented, and a large stock of manure returned to the earth, when the vine is ploughed in, the land remaining enclosed and ungrazed.

Among the various modes of fertilizing the earth, I know of none so well suited to the large scale on which planting is calculated, or more efficient than the system of enclosing. The whole surface of the earth is covered with vege-

table productions of some kind congenial to the state of the soil. This is a universal law of nature, every where in activity, and the beneficent agent to which we are indebted for its fertility. I take it for granted that the position will not now be questioned, that productive soil is principally composed of vegetable or alluvial earth, and that the productive powers of the latter may be resolved into the former, the real distinction being little more than the accumulation and accidental change of situation. If we have drawn from the soil this vegetable matter so as to diminish its productive powers, the plain remedy is to restore it; and the interest of the planter or farmer is to adopt the most effective and least expensive means. In the middle states, red clover is considered the best agent for effecting this purpose, and this opinion seems to be justified by extensive experiment and the experience of several years. But this property is not peculiar to any particular plant, the whole vegetable creation is destined to contribute to this great object. Enclose your fields, save them from the hoof and the tooth of your stock, and where there is any soil retained, the earth will be clothed with a covering of weeds and grass, little inferior to a crop of clover, for the purposes of manuring. There is a difference of opinion still existing, respecting the proper time of ploughing in this vegetable cover, whether in a green or dry state, to produce the most beneficial effect. As a preparation for a corn or cotton crop, I should certainly incline, from the results of my own experience, to decide in favour of the dry state, on the principle, that the manure in this state will be retained much longer in the earth, and be less liable to pass off in a gaseous form. An eminent writer,* distinguished by his lectures on the elements of Agricultural Chemistry, remarks on this subject, that "the great object in the application of manure should be to make it afford as much soluble matter as possible to the roots of the plant, and that in a slow and gradual manner, so that it may be entirely consumed in forming the sap or organized parts of the plant." Mr. John Taylor, of Virginia, speaking of this mode of improvement, observes, that "to draw from the atmosphere the greatest quantity of manure, to check the loss the earth sustains by evaporation during the process by trade, to give the manure the *most lasting frame*, and to deposit it in the most beneficial manner, are the primary objects of the enclosing system." Permit me, gentlemen, to avail myself of this public opportunity, to express my gratitude to this distinguished benefactor of American husbandry; the friend of Agriculture is the friend of man. Mr. Taylor's excellent essays on the enclosing system need no comment; his agricultural principles are generally sound, and his plans always practicable upon any scale that wealth may warrant or poverty prescribe.

As the most plausible theories frequently fail in agriculture when tested by practice, the engagement to establish one or more farms to make experiments, was certainly a proper provision in the articles of our association; but should we be even fortunate enough to find our funds sufficient to effect this desirable object, yet I flatter myself we shall not limit our exertions to this establishment alone, but that the

* Sir. II. Davy.

spirit of experiment and improvement will animate every member of society, and finally spread through the whole community: I am firmly persuaded that the support and usefulness of the society, will, in a great measure, depend on the communications of practical agriculturalists, from which a body of information, highly important to the objects of our association, may be collected and published by the society in that form, most likely to promote a general and correct knowledge of the principles and practice of agriculture.

[To be continued]

Cattle Show, &c.

The public are hereby informed, that the *Cattle Show, Exhibition of Manufactures Ploughing Match, and public sale of Animals, &c.* heretofore advertised to be held at Brighton, on the 12th and 13 of October next, will take place on those days; and that every arrangement is made therefor. An excellent hall is ready for the reception of all Agricultural Implements and Manufactures, that may be offered for premiums, and where every care will be taken of them.

Any persons having Implements useful in Husbandry, and that are not in common use, although not entitled to premium, would do a service to the community, by exhibiting them in their hall; also, any uncommon vegetables, grains, and grasses.

Those gentlemen who are members of the Massachusetts Society for Promoting Agriculture, that have not received their certificates, will find Mr. Jacob Kuhn in their hall, on both days of the Show, who will deliver them, on payment of five dollars, (the sum agreed on in lieu of all annual assessments)—those members on the *old list*, who prefer paying their annual assessments, will have an opportunity so to do.

A dinner will be provided for a limited number, at Mr. Fuller's Tavern, on the 12th; tickets for which may be obtained any day previous at Messrs. Wells and Lilley's, Court street, Boston, and on the said day, of Mr. Kuhn, at Brighton.

Business will commence on each day at 9 A. M. The first day a procession of the trustees and members of the Society, together with their invited guests, will move from the Agricultural Hall to the Meeting-house, at half past nine, precisely, where prayers will be offered, and an essay on some agricultural subject; after which the president will announce the names of the gentlemen, composing the different committees, and the other arrangements for both days.

The trustees have, at great expense, provided an excellent range of pens, for the accommodation of cattle of every description. They trust their Agricultural Friends will fill them as handsomely, as they did last season.

It is again requested, that all persons intending to offer for premiums, (of any kind) will be attentive to make their entries on or before the 11th of October, with Mr. Jonathan Winship, of Brighton, as they are determined strictly to adhere to that rule, and which will prevent much confusion on the days of the Show.

The trustees would request their Country Friends, who have fine Animals of any description to dispose of, to bear in mind, that they intend to appropriate their fine ranges of pens, on the 13th of October, for the *Public Sale* of such animals, having engaged an Auctioneer, free of any expense to the proprietors. This they consider an important addition to their Show, and will enable the owners to obtain the highest prices; they will please to attend to the rules and regulations on that head,

JOHN PRINCE, } Committee
P. G. BROOKS, } of
S. G. PERKINS, } Arrangements.

It is requested, that the printers of Newspapers in the state of Massachusetts, would insert the above.

Extracts from a Compendious Dictionary of the Veterinary Art.

[Continued from No. 27—p. 213]

BLENNORRHOEA, or *Mattering of the Yard*. A mucous discharge from a stallion's yard, generally caused by covering too frequently. This disease generally soon ceases, when the animal is kept from mares, but may be more quickly stopped by washing the parts frequently with the following lotion, cold:

Acetate of lead, two drachms.

Sulphate of zinc two drachms.

Water, one quart.

In obstinate cases, it may be injected into the urethra, in which case it should be diluted with an equal quantity of water. The same remedy is applicable to mares, that have a mucous discharge from the vagina. In all cases where there appears to be inflammation, a moderate dose of physic should be given.

BLISTER. An application which inflames the skin, and raises the cuticle into small bladders, which contain a watery fluid: various substances are employed for this purpose, the principal of which is the cantharis or Spanish fly, (lytta vesicatoria;) euphorbium, hellebore, corrosive sublimate, oil of origanum, oil of turpentine, &c. are also occasionally employed. There are three different forms in which blisters may be used, that is as an ointment, a liniment and a tincture; the last is commonly named *Liquid Bister*. The ointment is generally preferred, but the liquid bister is considered by some practitioners the best application for curbs, spavins, and splents. The part to be blistered should have the hair cut off as completely as possible, and after the application has been well rubbed in, the horse must be prevented from biting or rubbing the part, which he is generally apt to do, even for several days, which sometimes causes a serious blemish.

Blistering Ointment, No. 1, or Mild:

Hog's lard, four ounces,

Yellow wax, one ounce.

Melt over a slow fire, and then add oil of turpentine or origanum, one ounce. Powdered cantharides, six drachms.

No. 2, or Strong:

Oil of turpentine, two ounces.

Sulphuric acid, by weight, six drachms.

Hog's lard, twelve ounces

Powdered cantharides, two ounces.

The first two ingredients are to be carefully mixed in a glazed earthen or stone pot, large enough to contain all the ingredients; for if the sulphuric acid is pure, or of sufficient strength, a violent effervescence or boiling will take place soon after they are mixed, and dense suffocating fumes will be produced; the mixture, therefore, should be made either under a chimney, or in the open air. When the effervescence has ceased, the hog's lard, having been previously melted, is to be added, and then the powdered cantharides. The last, however, should not be put in until the mixture shall have become rather cool.—The whole is to be well stirred together.

Blistering Liniment:

Olive oil two ounces.

Oil of turpentine, half an ounce.

Water of pure ammonia, two drachms

Powdered cantharides, two drachms.

Liquid Bister:

Powdered cantharides, one ounce.

Spirit of wine, eight ounces.

Water of pure ammonia, two ounces.

Let them be kept together about a week, frequently shaking the bottle; then pour off the clear fluid, or filter through blotting paper. This preparation may be made much stronger, by dissolving in it from half a drachm to a drachm of corrosive sublimate. When the mildest kind of blister is wanted, a mixture of cantharides and hog's lard, or olive oil, will be found to answer the purpose.

BLOOD Soon after blood has been drawn it coagulates, or becomes rather solid, and has the appear-

ance of a dark red coloured jelly, with more or less of a watery fluid, termed *Serum*. This red coloured jelly consists of two distinct parts: the coagulable lymph, and the red globules or colouring matter. When blood coagulates immediately after it is drawn the red globules and the coagulable lymph remain mixed together, appearing as one substance; but if the blood continues fluid, the red globules being heavier than the lymph, will be gradually subsiding, leaving the latter on the surface; hence it is that in inflammatory diseases, in which the blood is always longer in coagulation than in health, we find more or less of buff or size on its surface, which is nothing more than the coagulable lymph free from red globules; and it will be found that the quantity of this size will be pretty nearly in proportion to the length of time the blood has remained in a state of fluidity.

BLOODY URINE. This disease more frequently happens to cattle than horses, and to the female than the male. It generally arises in horses from bruises or over exertion; sometimes, however, it comes on without any known cause. In recent cases where it can be traced to a strain or bruise, bleed freely, give the oily laxative, and rub the loins with some stimulating mixture; but when it comes on gradually, or without any apparent cause, and particularly if there be no symptoms of inflammation, and the animal appears rather weak than otherwise, give the following powder morning and evening for two or three days:

Catechu, half an ounce.

Aum, one ounce.

Cascarilla, two drachms.

This may be made into a ball, should that form be preferred by means of flour and treacle. For the treatment of bloody urine in cattle, see *Red Water*.

BLOW. See *Bruise*. Blows in the eye are by no means an infrequent occurrence in horses and cattle, sometimes causing a very severe degree of inflammation. Farriers often apply stimulating powders on such occasions, which serve only to aggravate the mischief, and sometimes do an irreparable injury. In slight cases it will be sufficient to bath the eye frequently with a weak solution of acetate of lead, or Goulard's extract, about two or three drachms to a pint of water; this should be used rather warm; a decoction of poppy heads has been found useful also. When the injury is more severe, bleeding and a dose of some laxative should likewise be employed.

BOTT. A short reddish coloured worm often found attached to the horse's stomach. Mr Bracey Clark has written an excellent paper on this subject, in the Transactions of the Linnean Society, from which the following is extracted. We must premise, however, that bots are not properly speaking worms, but the larvæ of the gad fly, which deposits its eggs on a horse's coat in such a manner, as that they shall be received into his stomach, and become bots. "When the female fly has been impregnated and the eggs are sufficiently matured she seeks among the horses a subject for her purpose, and approaching it on the wing, she holds her body nearly upright in the air; and her tail, which is lengthened for the purpose, carried inwards and upwards. In this way she approaches the part, where she designs to deposit the egg, and suspending herself for a few seconds before it, suddenly darts upon it, and leaves the egg adhering to the hair, by means of a glutinous liquor secreted with it; she then leaves the horse at a small distance, and prepares the second egg, and poising herself before the part, deposits it in the same way the liquor dries, and the egg becomes firmly glued to the hair. This is repeated by various flies, till four or five hundred eggs are sometimes deposited on one horse. The inside of the knee is the part generally preferred by these flies for depositing their eggs, and next to that, the side and backpart of the shoulder; and it is curious that these parts are most exposed to be licked by the animal; in licking the egg adheres to the tongue, and are carried into the horse's stomach with the saliva. The bots attach themselves to every part

of the horse's stomach, but are usually more numerous about its farther orifice; and are sometimes though less frequently, found in the bowels. Their number varies considerably; sometimes there are not above half a dozen; at others they exceed a hundred. They most usually hang in clusters fixed by their small end to the inner coat of the stomach, to which they attach themselves by means of two hooks. The slowness of their growth, and the purity of their food which is probably the chyle, must occasion what they receive in a given time, to be proportionably small from which, perhaps, arises the extreme difficulty of destroying them, by any medicine or poison thrown into the stomach. After opium had been administered to a horse, labouring under lock-jaw for a week in doses of one ounce every day, bots were found in the stomach perfectly alive. Tobacco has been employed in much larger quantities in the same complaint and has also been continued without destroying them." While making experiments on glanders, I have found living bots in the stomach of a horse though he had been taking for many days arsenic and corrosive sublimate. Another species of gad-fly, viz. *hemorrhoidalis*, also produces eggs, which, when received into the stomach, become bots of a red colour and smaller. The presence of bots in the horse's stomach, is not easily ascertained, as it is certain that great numbers have often been found in the stomach after death, without appearing to have produced any kind of inconvenience to the animal while alive. Several cases, however, have come under my notice where they evidently caused the horse's death. In one case, symptoms of staggers were produced; in several others, inflammation of the lungs and other contents of the thorax. Mr. Clark, of Edinburgh, has recorded one case, where the coats of the stomach were highly inflamed, and a mortification had taken place on one side, where it appeared of a darker colour; and here there was a small hole, through which a lead probe was passed from the outside into the cavity of the stomach. I have met with similar cases. It does not appear that any effectual remedy has been yet discovered for bots; Mr. Blaine says, that he has kept them alive for some days in olive oil and in oil of turpentine, and that even the nitrous and sulphuric acids do not immediately destroy them. When bots are supposed to be irritating the stomach or intestines, it will be proper to give a dose of physic, as it may be the means of expelling such as are detached.

(To be continued.)

For the American Farmer.

On Hedging. No. 5.

In the year 1806, I had an opportunity of seeing some of the Virginia thorn (before mentioned) in its native soil, and from its appearance had a favourable opinion of its fitness for hedging. The berries on them were progressing to maturity. I engaged a person in that country to have a barrel of the haves gathered when ripe, and sent on for my experiment the ensuing spring. They were sent on by water; but being late the navigation closed by winter, and they remained in Baltimore till the opening of spring, when they came to hand. Not knowing any difference between them and the *Newcastle* kind, I put them in the ground in bulk, to prepare for the ensuing year; and in the meantime, had a suitable piece of ground to receive them in drills, prepared by good tilth, and planted them as early as the season would admit; thinking some of them might vegetate that year, and that by keeping the ground free from grass and weeds, I might have a full crop by the next year at least.

After waiting a due time with anxious expectation, I was disappointed; not half a hundred vegetated from the whole quantity (three bushels) of seed. I then obtained a few thousand quicks, or sprouts, of the same kind, of a friend, who was more successful in his preparation of the seed, having it rubbed out of the covering of skin and pulp, by that means, and burying it in bulk near the surface of the ground, so lightly covered, as to have the full effect of the frost and changes of weather, to act on them; they came forward into vegetation, as soon as the warmth of spring could strengthen them; and they grew least a foot high as yearlings.

I was not alone in my disappointment in the seed vegetating; I found afterwards, several who had procured the berries, in the *pulps*, and were disappointed also in their vegetation. Whether it is from a fermentation taking place in this covering of a pulpy nature, or a quantity being confined together, that causes the effect, I must leave others to say; but the only way to avoid that failure, has been to liberate the seed from the covering and dry them; they may then be kept safely; yet they are hastened in their vegetation, by softening the shell that covers the kernel by a further preparation. The general practice has been to bury them in a bag of some kind that will keep them together just within the surface of the ground, as above stated, in the autumn, as soon as prepared, and take them out in the spring, and put them in a prepared piece of ground, in drills for a nursery.

After having been kept dry all winter, I have had them grow very well with two or three weeks softening the shell, by immersion in warm water a few hours, and then exposing them to a frosty night or two in a wet state, letting them have the influence of the changes of weather; but they must be kept in a uniformly wet state until germination appears, then commit them to the earth, well protected to undergo the change; and this part should be particularly attended to as they are a delicate seedling, easily affected by a late frost; one frosty night may blast all your hopes of a promising crop of these, as it does of many other plants, without precautionary steps are taken to retard the progress of germination, either by keeping the seed in a cool situation until past the common time of spring frosts, or otherwise having a covering prepared, to make use of if necessary, which is easily done. I have been thus particular on the point of making your outset with more certainty as I might have saved some years of time in framing a hedge, if I had been as well informed on the subject, as time and experience have made me; still I do not suppose that we have nothing further to learn on this head, but the process above stated has produced the effects described.

This part of the business is more the province of the nursery-man than a farmer. I should recommend the agriculturist to raise the quicks only in case he can afford to give due attention to them in the seedling state, keeping them clean and thrifty. There are very few farmers, who are ready, even if disposed, to plant all their hedges in one season, as there must be some preparatory measures taken first to regulate the size and shape of their fields and lots in such a manner, as to be permanently most convenient; temporary divisions may be made with wooden fences, and a preparation of the ground where they all are to be planted, is another

necessary step, by ploughing and harrowing it about four furrows in width: some do it by planting a row of potatoes the year previous with a little manure, which does very well, although I set mine without any preparation before planting, yet I should not say this mode was the best.

I have raised some quicks several times for my own use, but from a press of other concerns, they were too often neglected; I therefore declined raising any more as several persons made a business of keeping them in a nursery until from one to two or three years old, and these were taken proper care of, to ensure a sale. Good thrifty two year old quicks, which is the proper age to plant for a hedge at first setting out, may be had for five dollars a thousand; they sold at six a few years back. One thousand quicks are sufficient to plant one hundred pannel of common post and rail fence, of ten feet to the pannel: (more on this point hereafter.) I found it best to have extra plants in the garden or some suitable place as a reserve, and of the same age with those planted for a hedge, to be set in the vacancies occasioned by the death or failure of other plants. The ground mice are the greatest enemy they have, especially in high loose soils, when covered up by snow in winter, they being fond of the tender bark peel the root sometimes. The filling up of those vacancies should never be omitted, quicks of equal size of those in the hedge, should be set out in those places the ensuing spring, to keep up a uniformity of strength and appearance in the matured hedge; a small piece of work to perfect the business, but a great error to omit the doing of it timely, as a young plant set in, when the adjoining ones have got strength, is overtopped by its superiors, and continues an underling, leaving a weak spot, not so easily repaired in any way, as the mode pointed out. Uniformity in strength is essential, and in appearance is gratifying, and demonstrates attention to the subject equal to its importance, and that importance is such, that we need not plant or sow our fields if we neglect the enclosure in any parts exposed to danger, as observed heretofore.

The Virginia Thorn obtained in 1805, I planted on a level surface, without any preparation of the ground, with a spade turning the grass sod under, and keeping the grass down by putting fresh mould above, that nothing should rise to impede their growth that year; they uniformly lived, I had scarcely any one to re-plant. This new acquisition to my means of acquiring a living fence, gave new life to the subject. I began to pay more attention to the Newcastle kind already, old enough to have made a fence, if they had been properly treated since they were planted. Although the Virginia had taken the lead in general estimation. I considered it more on account of their foreign origin, and being easier raised, and, as many thought, a more speedy growth; so they were; but I observed more attention was paid to them than had been to the former. It may be here noted, that either kind will grow with double progress, by giving the proper attention to them, keeping the ground loose, and free from grass or weeds about the roots, by dressing at least once every year, but twice while young; by so doing they will either of them acquire strength enough for a fence in six years, after planting, if then pashed.

And to show the effect of neglect, I shall note the circumstance of my having mowed a Newcastle thorn hedge, the next year after planting, from native quicks taken out of waste ground, some of them small. Having altered my plan of division this hedge was taken up and planted in another place. Last spring (1819) being in search of some stocks to fill up a small gap in a hedge, I found some chance quicks, in the place I moved that hedge from after one year's standing and they were not thicker at the root than a common goose quill, although they had been eighteen years planted, and growing on a gravelly mil-race bank, covered with grass, but never cultivated, nor the grass taken from the roots. It shows what slow progress they make when neg-

lected in culture; this was what might be called a poor gravelly bank, yet it was covered with grass. The thorn seemed lively in its appearance, and grew after transplanting. It shows also the strong inclination to live under every circumstance, after the first year.

I do not recollect having ever known a thorn to decline or die, unless there was a manifest enemy present.

Internal improvement.

From the Richmond Enquirer.

TO THE EDITOR.

WESTERN COMMUNICATION.

The following very interesting article is extracted from the last letter of Mr. Isaac Briggs, (Engineer) to Mr. Peyton, Secretary to the Board of Public Works.

Pattonsburg, Va. 9th Mo. 21, 1819.

I arrived here this morning from a laborious tour on the mountains and the western waters, and am so far down James river in prosecution of my arduous duties. Thomas Moore, my able and respected colleague, has proceeded westward to finish the examination of ground for a road between the mouth of Dunlap's creek, and the great falls of Kanawha. So far as he and I had proceeded together in this examination, we were encouraged to hope that ground might be found between those important points for a good road not exceeding the distance of 90 miles, and no where exceeding the grade of 5 degrees of acclivity or declivity. It is possible, however, that this hope may be disappointed, as the examination is not yet complete.

I have now but a few minutes, to state some general results from our survey, I cannot go into details. The distances from each other and elevation above tide water, of sundry places, are as follows:

	Miles	Ps.	Above tide.
James river at the mouth of Craig's creek	48	300	925 feet.
To the mouth of John's creek			
Craig's creek, at the mouth of John's creek			1270
To the highest spring tributary to Craig's creek	8	266	
Elevation of this spring			2498
To the lowest point on the dividing ridge	0	116	
Elevation of the said point			2551
To the nearest stream tributary to Sinking creek	0	98	
Elevation of the said stream			2509
To the mouth of Sinking creek	34	51	
New river at the mouth of Sinking creek			1585
From the mouth of Craig's creek to the mouth of Sinking creek	92	191	
Jackson's river at the mouth of Dunlap's creek			1238
To the lowest point on the dividing ridge	16	69	
Elevation of that point			2478
To the mouth of Howard's creek	0	12	
Greenbrier river at the mouth of Howard's creek			1640

To the mouth of Greenbrier river	49	287
		78 36

On new river and Kanawha from the mouth of Sinking creek to the mouth of Greenbrier	55	53
New river at the mouth of Greenbrier		1333
To Bowyer's Ferry	46	130
New river at Bowyer's Ferry		930
To Kanawha at the foot of the Great Falls	20	240
		122 108

Kanawha river just below the Great Falls		589
To the mouth of Kanawha river	94	00
Ohio river at the mouth of Kanawha		481

From the 24th of May to the 18th of August, there were levelled with one instrument and surveyed 293 miles, 266 miles of rivers and creeks, and 27, twice across the Alleghany mountains.

In the year 1816, the Engineers employed by the state of New York found the surface of Lake Erie to be 564 feet higher than tide water at Albany. If then we assume as a fact, which appears to be quite reasonable, that the average height of the tide, is, at Albany, at Richmond, and at the mouth of the Mississippi, on the same level; Lake Erie is only 83 feet higher than the Ohio at the mouth of the Kanawha, and from that point to the mouth of the Mississippi, nearly 2000 miles, there is a fall of only 481 feet. I often contemplate, with enthusiasm, the numerous beautiful and placid rivers of the West, so admirably adapted to an easy and cheap intercourse, with a little improvement by industry and art.

I ascertained mathematically the height of a part of Pond mountain, a branch of the Alleghany, and afterwards obtained a comparative estimate, the best in my power, of the elevation of the Pond and of the highest knob above the point observed; the result of these observations and estimate is,

That the surface of the water in the Pond is above tide water 3860 feet; and the Bald Knob, or highest point 4160 feet.

Extract of a letter from Mr. Isaac Briggs, Engineer, to the Secretary of the Board of Public Works (received yesterday, dated,

PATTONSBURG, 9 Mo. 23, 1819.

"The day before yesterday, I wrote to thee, in much haste, and being detained here by rainy weather, affords me another opportunity. On reflection, I fear I have committed a mistake, in summing up distances; however, as I kept no copy of my former letter, I am not absolutely certain. Be pleased to examine the distances in that letter, and, if necessary, correct them by the following. The elevations above tide water are all right.

	Miles.	Poles.
From the mouth of Craig's Creek (May 24) to the mouth of Sinking creek		92 191
From the mouth of Dunlap's creek to the mouth of Greenbrier river		78 36

From the mouth of Sinking creek on New river, to the mouth of Greenbrier river
 From the mouth of Greenbrier to Bowyer's ferry
 From Bowyer's ferry to, and including the Great Falls of Kanawha
 Kanawha river from the Great Falls to its mouth (August 13)

The whole distance levelled with one instrument and surveyed from May 24 to August 13, 1819

Rivers and creeks
 Twice across the Alleghany mountains

Whole distance as before

[The only variation between the letters, is as to the "summing up, at the foot—the preliminary items are all the same. Editor Inquirer.]

It is now contemplated to open a canal between New York and Philadelphia, by way of the Raritan and Delaware rivers. We have long wondered why this enterprise, as well as that of a canal from Barnstable to Buzzard's Bay; and another from the Delaware to the Chesapeake Bay, have not been opened. A moment's reflection, it has appeared to us, would not only point out their practicability; but, beyond the public good, the immense profits that would accrue to such individuals, as should embark their property in the undertaking. Patriotism, as well as private interest, would seem to stimulate the accomplishment of these important objects.

UNIVERSITY OF VIRGINIA.

The deep interest we feel in this institution induces us to give the following description of the buildings from a letter

TO THE EDITOR,

Dated Charlottesville, Sept. 22.

"As you are as well as myself a warm friend to the University of Virginia, it will perhaps not be uninteresting to you, to know what is doing here towards the accomplishment of this great work. I must first give you a general outline of the plan that you may know what portion of the work is executed. It is contemplated to build on each side of a lawn about two hundred feet wide, and on a beautiful eminence, a range of buildings, for the accommodation of the professors and students. There are to be five pavilions on each side, from 50 to 100 feet apart; each pavilion has a lecture room and four or five other rooms for the use of the professor. The intervals between the pavilions are filled up with dormitories sufficiently large for two students to each. About thirty dormitories, on each side of the lawn, will fill up the intervals between the pavilions. Gardens will be laid off at the back of the pavilions, running back to a street about 250 feet from the lawn and parallel to it. On the back streets, boarding houses and other dormitories will be erected. The lawn will be handsomely improved, by planting trees and sodding it. It will be terminated on the north end by a large circular building, and remain open to the south for any additional buildings, that may be found necessary hereafter. So much for the general plan. Now for what is executed. Two pa-

vilions are nearly completed, they are of the very best materials, and the workmanship is well executed and finished externally with great taste. One of them has a very rich Corinthian entablature; the other finished agreeably to the Ionic order. All the pavilions are to have porticos in front, and a colonnade in front of the dormitories, so that the students can go to any lecture room under cover. The buildings will be all finished agreeably to the different orders of Architecture. In addition to the foregoing, four other pavilions, with the intermediate dormitories are now going on, and it is expected, one or two more will be put up this fall, if the weather is favourable. It is much to be regretted that the funds of this institution are so slender; the subscribers, I understand, pay but little, and the donation of the state will not go far towards completing the establishment. It must, therefore, be protracted for some years, if aid is not granted from some source or other, and where can we look but to the legislature! It will rest entirely with the next Assembly to say, whether this important state institution, (that will not only save thousands that are carried out of the state for the education of Virginians, but in all probability will bring thousands from our sister states to the south and west,) shall be finished with expedition, or drag on heavily for years to come. With sufficient funds the buildings could all be completed the next year."—*Inquirer*.

LITERARY.

A work on the Black Sea has lately appeared. It is from the pen of Gen. H. A. S. Dearborn, the Collector of our Customs. It opens to view an immense country, abounding in resources, both on the borders of the Black Sea, and on those of the Danube, the Don, and the other great rivers which empty into it, and into the sea of Azoff. It gives a great deal of other information on the important and lucrative trade of the Levant.

Its preface is characteristic; it shows at once the author to be a man of genius: the whole work bespeaks aloud his great research and patient investigation.

The scene explored is peculiarly interesting, from its having been, in ancient times, the grand emporium for the rich products of the East Indies. It is now of less consequence than it was before the discovery of the passage round the Cape of Good Hope. But still the trade of the Black Sea and of the Levant is deemed, by the principal powers in Europe, a trade of very great importance. *Strange to tell, among the various commercial nations of the world, America alone totally neglects it.* Our merchants have not followed it, because, according to the custom of the court of Constantinople, they would be obliged to trade under the protection of some ambassador there; and their pride as Americans naturally leads them to disdain any other protection than that of their own country.

It appears to me, on the whole, that statesmen as well as merchants, can do justice to the work only by an attentive perusal.

The question which this valuable memoir naturally presented to my mind, at once, was this; How long shall our proud flag be expelled from the Black Sea, or be compelled to bow for protection to some foreign ambassador?

[*Degrad's Report.*]

Occasional Extracts of Letters.

To the Editor of the American Farmer.

If you should publish the following *Cure for the Pleurisy*, in your valuable paper, I am under the apprehension, that the benefit will be very extensive, and being, as it is, an Indian cure, I am convinced that it is not generally known, therefore I submit to you the following correct receipt.

A Friend to the People.

A CURE FOR THE PLEURISY.

Take three or four pounds of the nettle root,* and after washing and beating it, boil it with two gallons of hydrant, rain, or river water, until it is reduced to one gallon; then strain it through a cloth, and sweeten it with molasses. Take a pint of it every ten minutes, as warm as it can be drank. The patient must be well covered in bed, or the effect might be attended with the most serious consequences.

The above directions, if strictly attended to, will cure the pleurisy in ten hours or less.

* The nettle and thistle are different things. The Editor supposes the writer means the nettle, well known in the country for the burning sensation produced by it, notwithstanding its offensive appearance.

REMARKABLE PRODUCE.

We are assured the following is the product of a single pumpkin seed, grown the present season, in Herkimer, New York.

From one seed,	50 pumpkins.
Length of vine and branches,	730 feet.
Weight of pumpkins,	434 1 4 lbs.
Weight of vine,	136 do.
Weight of pumpkins and vine,	570 1 4 do.

PROLIFIC VINE.

AUGUSTA, Geo. September 25.

We published in a former paper, an account of the number of squashes gathered from a vine, the produce of a single seed, in the garden of Mr. Searle, of this place. It may be recollected that the vine had yielded to the

31st July,	775 squashes
Gathered August 9,	325
16,	250
23,	375
30,	350
September 15,	140

Total, . . . 2215

At the last gathering but one, the vine looked as flourishing as at any previous period, but was soon after attacked by insects, by which in a few days it was destroyed. The squashes gathered, averaged 48 weight for every hundred in number, which was nearly half a pound each. Those conversant with such subjects, can determine, whether or not the vine, in this instance, was more than ordinarily prolific.

In the same garden, a water-melon vine, from a single seed, produced 380 weight of water-melons; the melons separately weighed from 12 to 34 1-2 pounds.

[*Geo. Adv.*]

PENN YAN, September 14.

Mr. Abraham Townsend, who resides near this village, last week sent us a corn stalk, which he states to be but 92 days from the seed, and which measured in length, thirteen feet and four inches, and eight feet from the bottom of the stalk to an ear.

RICHMOND, Va. Sept. 18.

The largest Peach I remember ever to have seen, was purchased at the market-house, by a gentleman of this city, on Wednesday morning last. It measures eleven inches round, and weighs ten ounces.

This one was selected from a number of others very little inferior to it in size. It grew upon the Meadow Bridge's plantation, formerly the property of Mr. Lewis Trueheart, now of Jervas Storrs, Esq. within six miles of this city. It is understood to be the intention of its present owner, (to whom in was politely given by the gentleman that purchased it) to preserve it in spirits, and deposit it in the Museum, for the inspection of the curious. When the unfavourableness of the season, to the growth of the article, is considered, it is but reasonable to infer, that under other circumstances, it would have attained to a much larger size. But it does not require the assistance of conjecture, to add to the novelty of its size. It is certainly a very uncommon production of the kind. Q.

GRAND AQUEDUCT IN NEW YORK.

A number of spirited gentlemen of New York, among whom were the Mayor of the city, Dr. Mitchell, and Gen. Swift, have lately examined the sources of the river Bronx, about thirty miles distance from the metropolis, and found them abundant in water, uncommonly fine, transparent, and healthy; they therefore recommend its introduction into the city, which, they are of opinion, may be effected at an expense the citizens would cheerfully pay, in consideration of the immense benefit, they would thereby enjoy.

THE FARMER.

BALTIMORE, FRIDAY, OCTOBER 8, 1819.

The proceedings of the South Carolina Agricultural Society, commenced in this number, will be finished in our next. We return our thanks to the friend who furnished them for publication, as they will give additional interest and more permanent value to this volume of the American Farmer.

BALTIMORE MANUFACTURIES.

The Aurora of the 5th instant, contains the Report of the citizens of the city and county of Philadelphia, friendly to *American Manufactures*. We shall publish the whole Report, unless it shall have been through other journals so extensively circulated, as to render it unnecessary. In the meantime, we invite the attention of the manufacturers of Baltimore to the following, one amongst other resolutions adopted at Philadelphia.

"Resolved, That it be earnestly recommended to the citizens of Boston, New York, Baltimore, Wilmington, Pittsburgh, and all other places, where industry is paralyzed, to appoint committees to make inquiry into the rise, progress, and decline of their manufactures, respectively, in order to lay the result before Congress at their next session, so as to enable that body fully to appreciate the ruinous consequences of the existing policy, and to apply an adequate remedy."

We have great doubts whether this call on the manufacturers of Baltimore, will be answered. As far back as May last, we expressly solicited information as to the capital invested, and the former and present condition and prospects, of all manufacturing establishments in this district, and a statement as to the mode and extent of encouragement, which it might be thought expedient to ask from the national legislature. Our call has never been answered, notwithstanding there is every reason to believe, that these establishments are, some of them, at the lowest ebb, and others but heaps of mouldering ruins.

It is indeed to be apprehended, that the public spirit of the whole country is at a very low ebb—an appalling indifference on many subjects of vital interest to the nation, appears to pervade the community. In Baltimore, we fear, more especially, the spring of

enterprise has fallen into a state of long and almost hopeless languor and relaxation, if it be not entirely broken.

The great question—How far any particular branch of national industry, should be encouraged by positive statutory provisions in its favour; is one whereof we have not the presumption to pretend to be masters—it is one which has employed, and confounded, older and much wiser heads than ours. But, viewing it, as we are wont to do most things, by the exercise of plain common sense, it does not seem to require much speculation or philosophical research to arrive at the conclusion, that that is a bad system of policy under which the following course and state of things occurs. For example—2 pounds of merino washed wool will make one yard of broad cloth—those two pounds of wool are bought here by an agent of John Bull, from farmer Owings for 150 cents, and shipped to England. English people go to work on it and presently John Bull sends it back again in the shape of a yard of broad cloth, and sells it to farmer Owings and his neighbours for eleven dollars. The difference between the cost of the raw material and the manufactured article, has been pocketed by those who are from interest our rivals.

The editor repeats, that from persons not residing in Maryland, North Carolina notes will be received at par for this paper.

Subscriptions will not be received for this paper for less than 12 months.

The editor of the American Farmer solicits information as to the date of the establishment of all the Agricultural Societies in the Union, their articles of constitution, proceedings, &c. &c. for publication in this paper.

A Summary of the Progress of the Arts in France.

Compiled for the Democratic Press, from M. Chaptal's *Comparison between the Industry of France, in 1789, and 1819*.

In 1789, the French imported *Cotton Goods*, to the amount of 26 millions of francs; in 1812, one million and a half.

The *Cashmere Shawls* of M. Ternaux are fully equal to those of India. The Angola goats, imported lately, promise new facilities to this manufacture.

The manufactures of *Linen and Silk* have been wonderfully improved of late years; and the machinery of Mr. Douglass, invited into France, by M. Chaptal has greatly contributed to the perfection of all the manufactures depending on spinning and weaving.

The establishments of the manufacture of *Chemical Articles* now excel the English, both in quality and price.

The art of *Bleaching*, both with and without the aid of oxymuriatic acid, has been carried to the highest perfection, not only on linen and cotton, but on the pulp of paper. In this way, colours are not only discharged, but paper is also coloured now with the most beautiful tints, at a cheap rate.

Distillation has been brought to great perfection, by the improvements of Messrs. Chaptal, Argand, and Edward Adam. The first improved the form of the still, by diminishing its depth in proportion to its capacity; the latter saved fuel by his mode of heating the wash, and con-

densing the spirit of various strengths by a single operation.

During the revolution, the art of making *Vinagar* for the table, for manufactures and for medicine, by distilling wood and clarifying the pyroligneous acid, has been so improved as to supply great part of the consumption of this article at the best tables of Paris.

The art of chemically *purifying Water*, by the improvement of filters, not merely in the mechanical construction, but in the chemical additions that precipitate the impurities of water, have essentially contributed, of late years, to health and to comfort.

The art of extracting the finest and most nourishing *Soups* from the gelatine, contained in bones, were brought to great perfection, by M. Cadet de Vaux. —, and the art of *Preserving meat, fruit, vegetables, and milk*, perfectly good for years, by the process of M. Apput, is also a present from Philosophy to Society.

The expeditious mode of *Tanning*, of M. de Seguin, is indeed only expedient upon urgent occasions; but the theory of tanning has wonderfully improved the practice of it, by applying to this art the anatomy of the skin, and the chemical changes that take place in it during the operation of tanning.

In France, for some years past, *Paper* has been manufactured of any indefinite length.

The memoir of M. Monge, on the process of felting, has greatly improved the *Hat* manufacture.

The *Metallurgy* of France, now, in all its branches, equals the English.

In *Porcelain* the French excel, at present, all Europe.

The *Stone Engraving* of M. de Lestayrie is daily improving, and promises to afford every scientific work, requiring plates, at much lower prices than formerly.

Speed the Plough.

During the following month, there will be exhibited throughout the New England states, the *Annual Festival of the Farmers*, which consists in Cattle shows, Exhibitions of Machinery, Manufactures, and Ploughing Matches. In almost every county in Massachusetts, there are Societies established for the improvement and encouragement of these objects; which, being liberally endowed, give a wonderful spring to enterprise, industry, and talent. The exhibition at Brighton, will take place on the 12th and 13th Oct. [See page 219,] and it is expected there will be on the spot, a finer show of cattle and manufactures, and a greater display of agricultural art and ingenuity, than has ever been seen in this country.

Much interest has been recently excited on the subject of matrimony, in the community of Rhode Island, it is not perhaps generally understood, that the laws recognise this as a civil institution altogether. Until the year 1733, none but civil officers were authorised to sanction marriage contracts; in that year, the authority was extended to ministers and elders of churches, as a matter of convenience merely — *Prov. Pat.*

JOHN S. SKINNER, EDITOR.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. 1.

BALTIMORE, FRIDAY, October 15, 1849.

NUM. 29.

AGRICULTURE.

Communicated for publication in the American Farmer.)

AN ADDRESS.

Delivered before the South Carolina Agricultural Society, at their anniversary meeting, held in Columbia, on the 8th of December, 1818, by WILLIAM R. DAVIE, Esq. president of the society; together with the report of the curators for the preceding year.

[Continued from No. 28—p. 219.]

One of the most important objects in connexion with the immediate interests of the farmer is the raising of stock. Every man must have observed the rapid diminution as well as depreciation, of this valuable article within the last fifteen years. It is true that the natural range is considerably abridged in some places, but the diminution is general. The all absorbing influence of the cotton culture, has principally contributed to produce this defect in our rural economy. It is true, that a large proportion of our plantations and labour, is appropriated to this interesting staple, which contributes little to the support of stock; yet, on every farm, much may be done from the very offal of our crops, to promote this important object: imitating the economy of nature, by which nothing is permitted to be wasted, and every thing compelled to contribute to the support of life in some mode or other. I wish it was in my power to state the aggregate amount of the sums drawn from this state for the necessary supplies of pork and beef, all of which might be saved by proper management, and added to the active capital of the planter. This subject assumes a more serious aspect, when it is considered that stock furnish those means, which must form a part of your improving system. It is highly important to the agricultural interests of our country, that it should be received as a maxim in our husbandry, that every plantation can raise or otherwise supply a sufficiency of manure for its own support and improvement. In Europe much is procured from the towns, in aid of that produced on the farm—here we have the woods and swamps, and much rich alluvial now useless soil, along the sides of every river, creek, and brook. But, however, abundant other resources may be, stock are every where considered as the great and indispensable means of effecting this important end; and the farm or fold must make a part of every well planned system of improvement. Deeply impressed, therefore, with the importance to our success, I take the liberty to recommend this interesting part of our duty to your serious attention; the means used by other societies have been cattle shows and premiums: permit me to add the dissemination of information, and the animating example of the members of this society.

The cultivation of the grasses naturally connects itself with this part of our general plan of improvement, and I am happy to be authorized to say, from the experience of several years, that almost all the cultivated grasses of foreign extraction succeed well in the middle and upper ranges of the state, where fortunately, all the necessary varieties of soil and situation may be found congenial to their culture. For the purpose of being fed green to horses or cattle. I have no knowledge of any grass superior to Lucerne; under proper cultivation, it may be cut eight or nine times in common seasons, commencing in March, and continuing till the hard frosts in the latter end of autumn. Being cut before it is in full bloom, it immediately springs up from the stumps

and its uncommonly strong and deep root preserves it from the common effects of drought. Its culture is easy and simple; in France it is cultivated broadcast, with the advantage of irrigation. In this mode I have not succeeded but it never fails in the drill on any good soil. Lucerne was among the earliest of the cultivated grasses; in Italy it was one of the fruits of Roman conquest; in Upper Egypt it has been used time immemorial, not only as the food of cattle but of man.

Red clover grows luxuriantly in the range of country I have mentioned, on suitable soils. This grass is properly the native of a clay soil, but will succeed almost on any, in proportion to the goodness of the land. The extraordinary success with which this grass has been cultivated in Pennsylvania, Maryland, and Virginia, for the purpose of food for stock of every kind, and above all, as an improving crop, gives it an unquestionable claim upon the attention of the planter and farmer. There is no danger of wandering in the mazes of theory on this subject; the practical results of thirty years experience in those states furnish an infallible guide.

Among the narrow leaved grasses, the dogs-foot, as it is called with us, deserves particular attention; it appears congenial to our climate, and grows luxuriantly on any rich soil, however dry the situation may be. This grass mixes well with the red clover, supports it from falling when luxuriant, and cuts to advantage, at the same time while it improves the hay, and contributes to its preservation when housed or stacked. The timothy and white-top or feather grass succeed generally on wet meadows; but timothy justly valued as a hay for horses, seems peculiar to a colder climate; it grows luxuriantly, almost spontaneously, on our mountains, while in the lower range of the state, it languishes, and is soon succeeded by the wild or native grasses.

The herds grass might be cultivated with the greatest success in the soft boggy lands in the lower parts of the state. There are few grasses more valuable for hay, while it gives strength and consistency to the surface of the most spongy bog, converting morasses, which are not only useless in their prestate, but even a dangerous nuisance in a neighbourhood, into valuable and productive land. Drought, the great enemy of this branch of agriculture, never affects the herds-grass when cultivated upon this, which is its particular soil. The inland swamp formerly cultivated in rice, and now generally abandoned, would form excellent meadow and grazing farms, equal to any in Europe or America, with the aid of this grass, and the native grasses of the country; I am confident, that these lands thrown into this mode of culture, might be improved ten-fold in their value; the profits of the grazier are certain and annual, and secured from those accidents of season, which frequently blast the best founded expectations of the planter. I wish it to be understood, that I consider the business of the grazier as perfectly distinct from that of the breeder of cattle.

The white clover yields but little food, and soon becomes dangerous to horses when pastured, and cannot be connected advantageously like its relative with any system of improvement. I cannot, however, close this short view of the grasses, without recommending to the attention of the society the Sainfoin, a grass so highly esteemed by the French farmers, that they canonized it under this singular appellation. The English farmers speak of it in terms of the highest approbation; it is they say, the best hay hitherto known for horses; many farmers keep them the whole winter upon it with very little corn, and

the horses remain fat and in fine condition; even post horses thrive well upon it, and next to corn nothing will keep them in such good order; it may be mowed ten years successively, and may be afterwards pastured with advantage for three years. This is the language of the English farmers, and it requires only a moment's reflection to observe how extremely interesting this grass would be to the planter, subjected to such an immense expense in the support of the horses and mules employed in the culture of corn and cotton. I do not know whether any experiment has been made of its culture in this state; The European farmers all agree, that it is among the most profitable grasses, and far exceeding any yet propagated on poor land—it will succeed on almost any soil which is mixed with rocks, or that has a bottom of firm adhesive clay.

In moist rich soils, the native grasses of our country make excellent meadow, with proper attention to eradicate the weeds and drain the boggy parts; the scythe improves the quality of the grass, and where the soil is rich or properly manured, it will yield an abundant crop. It may be observed where the meadows still remain, which were made by the first settlers, the native grasses have generally succeeded to the timothy, without operating any injury to the farmer.

I have dwelt on this subject, because an opinion had generally prevailed, that few or none of the foreign cultivated grasses would thrive in our climate, and from the imperious consideration, that this branch of agriculture must form the basis of that system of improvement, which can alone prove effectual to restore our exhausted lands. "An assured and plentiful supply of wholesome food for stock during the winter, enables them to multiply their numbers, while in their turn they contribute to the fertility of the soil, and the support and comfort of man."

It is a trite but just remark, "that every farm which is in good heart, should be kept so, and every one not in good heart should be made so." This should be held as a fundamental principle in the creed of every land owner; the late president of the United States has observed in his learned address to the Agricultural Society of Albemarle, in illustration of this maxim, "that any system or want of system, which tends to make a rich farm poor, or does not tend to make a poor farm rich, cannot be good for the owner; the profits where there are any, will not balance the loss of intrinsic value sustained by the land; that every acre made by improved management, to produce as much as two acres, is in effect the addition of a new acre, with the great advantage of contracting the space to be cultivated, and of shortening the distance of transportation;" thus the planter doubles his profits while he diminishes the expense of cultivation.

It would be a visionary project, unworthy of our experience to rest our plans of improvement on the feeble and abstract motives of disinterested patriotism; I am well aware that self-interest is the impulse which directs the industry of every branch of the community; this active principle is one of the laws of nature operating equally on the merchant, the manufacturer, and the agriculturist; and in general an honest and enlightened obedience to this guide will most effectually promote the advantage of society. It is from this impression, that I have used my feeble efforts to produce the conviction, that precisely as we progress in any system of agricultural improvement, we shall economise on the great objects of land, labour, and capital of every description; that the only source of our wealth is the soil,

and that the preservation of its fertility is the sole guarantee of our prosperity.

There is yet another subject immediately connected with the agricultural interests of the state, although not a direct object of our association, which I feel myself strongly impelled to recommend to your attention. Our produce, until it reaches the market of exportation, does not change its character of interest; it is still the planter's, and only becomes an article of commerce, when it touches the hand of the merchant; the transportation to market is as intimately connected with its value, as any process of its previous preparation: we have therefore a deep interest in the proposed improvements of internal navigation; it is not your pecuniary funds I wish directed to this great national object, but the united and enlightened influence of the members of this society.

In governments formed upon republican principles, national enterprise, to be successful, requires the support of general sentiment and feeling; the public opinion must lead, while the government only follows to organize the means of effecting the public will. The enlarged views and enlightened policy of the late legislature reflect the highest honour on the members of that body, and merit the warmest support of the planting interest; a late able address* to the planters on the Water-ways, and the elaborate report of the civil engineer, have demonstrated how capable this state is of improvement, how much we owe to the God of nature, and how little is wanted from the hand of man, to effect a more complete internal navigation, than can be boasted by the most favoured nations under similar geographic circumstances, particularly embracing the interests of that fertile range of country between the line of the long-leaved pine and the mountains, owned and cultivated by a people distinguished for their steady habits and their indefatigable industry. Commerce will soon feel the effects of these improvements, but the planting and farming interest will first hail their happy influence. The consummation of this wise and patriotic policy will animate every species of labour, bring all the energies of the nation into active operation, enhance the value of every kind of property, and ensure that species of prosperity, which, while it spreads wealth by the hand of industry, invigorates the moral energies of a nation.

Permit me to observe, gentlemen, that as it has pleased Divine Providence to place us under circumstances, which have made our character decidedly and, probably, permanently agricultural, you have by your association constituted yourselves the guardians of the vital interests of the state, and the patrons of that art, the state and progress of which must have a powerful influence on the physical, the moral and political condition of our country; you have voluntarily assumed this high responsibility, and I indulge the hope, that the public expectation will not be disappointed.

* By Col. Blanding.

REPORT OF THE CURATORS.

For the preceding year, ending 8th December, 1818, accompanying the Address of William R. Davie, Esq. delivered before the South Carolina Agricultural Society.

The Curators of the South Carolina Agricultural Society, in conformity with the twelfth article of the constitution, beg leave to lay before the society the following report of their proceedings.

As an apology for not having a greater body of important matter to lay before the society at this meeting, the curators hope it will be remembered, that it has only been about six months since this society was first organized. They have had the difficulties usually incident to so new an undertaking, to encounter. Their means and opportunities have been limited; and the most proper objects of their first attention, as demanded by the wants and circumstances of the country, have been to select. If, however, they have not as yet accomplished any very extensive purposes for the society, yet they trust it may be inferred, from the following report, that they have not been altogether idle nor inattentive to the duties of their appointment, but

have made such an introduction, as may serve as a earnest of the future utility of this society to themselves and to our country.

At a meeting of the board of managers, on the 27th of June, an interesting address by Colonel Taylor, as president of an Agricultural Society in Virginia, was obtained and examined. This enlightened practical agriculturist observes, that after fifteen or twenty years' experience, he has ascertained the importance of cultivating certain grasses, hitherto not much known or attended to in this country. After many repeated comparative experiments with sundry grasses, on an extensive scale, he recommends in the highest terms to the Virginia planters and farmers, the cultivation of the meadow-oat or Peruvian, and the red-top or herds grasses. He represents these two grasses as being in many respects preferable even to the clover, or to any other grass with which he has yet become acquainted. The board of managers, forcibly impressed with the lamentable deficiency of good grasses in our country, and with the vast importance of promoting and encouraging the culture of such as might be found well adapted to our climate and soil; and deeming it not improbable that some of the grasses, found to succeed well in the climate and soil of Virginia, might also flourish in Carolina, passed an order, that a peck of the seeds of each of these grasses should be forthwith procured for the use of the society. The Curators accordingly requested Colonel Hampton, whose correspondence with certain gentlemen in Virginia, afforded him a facility in effecting the object, to endeavour to obtain these seeds for them; and they are happy to be able to state, on the information of Colonel Hampton, that the seeds of the herds-grass has already arrived and the seed of the meadow-oat is soon expected. These seeds may be considered then as ready, and subject to the distribution and order of the society; and it also affords the curators satisfaction, to be able further to state, that the efforts of the society, with regard to the cultivation of these grasses, are likely to derive material additional confirmation as to the results of the culture of them by General Hampton, who has procured a large quantity of the seeds, and is about to try the experiment on a very large scale.

The curators have made some botanical researches, and have found along the margins of the water courses, and in the swampy grounds of our own pine lands, a great abundance of grasses of different species, some of which are supposed to be inferior to few, if any, of the imported grasses. They could not but be impressed with the opinion, from the luxuriance of these native grasses in an uncultivated state, spontaneously growing on all the swampy grounds of the pine lands, that these grounds are susceptible of being converted into excellent meadows. These low grounds, which are at present totally neglected, might probably be made in this way, as valuable as any land, which is not of the very first quality, and afford the intelligent farmer the means of rearing a considerable stock of cattle, which would render butcher's meat more plentiful, and of a better quality, than we have hitherto had in this country: and with good management, would enable him to obtain such supplies of manure, as would render even his pine lands also very productive and valuable. This being admitted, the conclusion is evident, that we have now within our reach neglected treasures, which if well husbanded, would prove of the utmost value in bestowing abundance in this sterile and very extensive portion of our state; thereby increasing our political importance with the increase of our resources, and adding very greatly to the sum of human happiness. Mr. N. Herbemont, whose care and attention to this subject have been commensurate with his zeal for the interest and success of the society,* has taken pains to select from amongst these native grasses, about forty specimens of different species, and has collected a considerable quantity of seeds from about seven species. These he offers to the society for distribution and experiment; but at the same time we wish it to be understood, that

* To exonerate Mr. Herbemont from the charge of egotism, it is but just to remark, that he was not the writer of this report.

we consider many other species, from which no seeds have been collected, as perhaps much better, than some of those which are collected, and seriously recommend the thorough investigation and trial of these grasses to those whose vicinity to the pine woods may afford them an opportunity of doing so.

The seeds which have been collected, and which are offered for trial, are from the following species:—*Holcus Lanatus*, *Bromus Secalinus*, *Cinna Arundinaria*, or *Agrostis Cinna*, *Paspalum* —, *Uniola Gracilis*, *Panicum Crus Galli*, *P. palum*, probably a new species; *Panicum Debile*, and *Panicum Aneeps*.

The *Digitaria Dactylon*, or Bermuda grass, has been known to flourish in a luxuriant manner, for several years past, in some of the yards of Columbia, and one of the members of this board saw it, about two years ago, thriving remarkably well, on a clay soil, in the yard of Captain Cunningham, of Laurens district, in this state. From the specimens of its growth, which we have seen, and from the eagerness with which horses, cattle, and sheep eat it, we have every reason to believe it capable of forming the most excellent high land pasturage. It is perennial, grows without any cultivation after sowing, survives and flourishes for many years, and does not suffer the ground to be taken from it by the weeds. But most especially, the curators conceive that if it should be found to flourish on the poor pine lands of this state, it might prove invaluable for the purpose of sheep pastures, and for propagating that most useful animal more extensively in this country. Under these views of the subject, an attempt has been made by one of this board, to cultivate this grass on the dry sand land of the pine woods. The excessive drought and heat of the season has prevented its full success, but we have seen enough to satisfy us, that its cultivation on such lands is practicable and worthy of more extensive trials.

The attention of the curators was attracted towards the Heliogland bean, and Talvera wheat, by a notice in the Gazette, that Robert Barclay, of London, had presented the Agricultural Society of Philadelphia, with a small sample of each of these seeds, with expectations that they might prove advantageous to this country. It is said that the merit of these beans consists in their extraordinary prolific quality, their perfect fullness of form and thinness of skin; and in their ripening much sooner than the common sorts. It is stated they will succeed on soils not stiff enough for the common beans, and have produced, generally, without extra manure, from sixty-four to eighty-four bushels per acre. The principal advantages of the Talvera wheat, are said to consist in its probable exemption from the ravages of the destructive Hessian fly, in consequence of the peculiar texture of its straw, its being less liable to be beaten down by the winds and rains, and from its being supposed to be more productive, than any other kind of wheat in England. These representations of the merits of these two articles of culture, induced the curators to exercise the discretion given them, in endeavouring to procure a few bushels of each of them, for the use of the society: and accordingly they requested Mr. Kirk, whose correspondence with that country is calculated to ensure success, to procure and import for us a few bushels of each. And we are happy to be able to state from Mr. Kirk, that they have been ordered with such precautions, as will secure their coming. As the Talvera wheat is a spring grain we have reason to hope, they may arrive in due time for trial the ensuing season. The society, therefore, will make such order for their distribution as it may see proper.

Colonel Hampton, who has recently imported from Italy some of the seed of the Lupinella, has politely presented the society with a peck of it. This grass has been extolled in high terms as a grass for fertilizing lands, and certainly deserves a trial in our country. These seeds are ready for distribution, according to order.

The curators have procured about half a bushel of lentils for the society, which are ready for distribution. The lentils, a species of vetch, which has not hitherto been much cultivated in this country.

The Hon. William Johnson has presented the society with a small quantity of Oneida wheat, said to be indi-

genus about some of our western stalks. What are its peculiar merits, the curators are not informed, but as it is a new wheat, it will be gratifying to try it, and perhaps it may be found to possess some important advantages. It is ready for distribution.

As the curators conceive that the time is not far distant, when timber and live fences must become objects of primary consideration with planters and farmers in many parts of this state, they have directed their attention, in a small degree, towards laying a foundation for ascertaining some species of timber, which might be worth cultivating, and the most eligible shrubs for live fencing. From a small experiment which has been actually made, they have ascertained that the common locust (*Robinia Pseudo-Acacia*) will thrive exceedingly well on our porous sand hills, although it is never found in this state, except on river lands or the richest soils. When we consider the great value of this tree, the beauty of its foliage, the quickness of its growth, and the great durability of its timber, approaching nearer to indurability, than perhaps any other known wood; we cannot, consistently with our sense of duty, forbear recommending the cultivation of it on our dry sandy lands, particularly in the vicinity of our towns, where wood for fuel, posts for fences, and timber for mechanical purposes, are already an object of very considerable interest, and must constantly become more and more so.

As an introduction to the inquiry for the most eligible shrubs for live fencing, the curators have caused to be collected some of the native haws of this country, with which gentlemen may engage in some small experiments, which may tend to shed a light on this subject, and enable them to ascertain their suitability or unsuitableness for this purpose. These haws are ready for distribution according to order.

But this shrub which has excited the most lively interest in the minds of the board, is the *pyracantha*, which is also a species of thorn. From the description given of this shrub, by Mr. Mane, of Columbia district in the Memoirs of the Philadelphia Society for Promoting Agriculture, &c. as well as from a verbal account given us by Virgil Maxcy, Esq. an enlightened gentleman of Maryland, deeply devoted to agricultural improvements, who has actually tried it in fencing on his own plantation; we cannot but recommend the culture of it in this state in the strongest terms. Mr. Maxcy has politely favoured two of the members of this board, Mr. Herbemont and Doctor Davis, with a considerable quantity of the berries of this thorn, which they offer to divide with the society, for the purpose of more varied experiments in the hands of several, than could be made in their own hands alone. We have learned, that these seed have been shipped to Charleston some time ago, where, it is probable, they have arrived; but from the lowness of the river, and the difficulty of obtaining freightage, they have not yet come to hand, but we hope they may arrive in time for subjecting them to the proper process of vegetation. The description of this thorn by Mr. Mane, and his prospects of success with it, are so flattering, that we must beg the indulgence of the society, while we read to them his communication on the subject.*

We will close our remarks on the *pyracantha* by observing that Mr. Herbemont has a few plants of it growing in his garden in Columbia, which, as far as can be inferred from the present period of their growth, promise to succeed very well.

A very small attempt has also been made by the same gentleman, at the cultivation of the Guinea-grass (*Panicum Altissimum*). A very small quantity of the seed were procured at a late period of the spring, and only two seeds came up. The season was peculiarly dry and unfavourable, so that the experiment was not as satisfactory as it otherwise might have been. One of the plants was divided into twenty-eight parts and transplanted. They took and grew well, and were cut five times with only an interval of two weeks between each cutting. Some of the grass thus cut was made into hay, and proved to be a most excellent fodder. The other

plant, which had not been divided, grew to seven and eight feet high, and was cut only once at the close of the season, and the grass of that cutting, weighed, green, thirty-six pounds. It cured into an excellent sweet soft hay. These plants were cultivated on the high sandy land of Columbia, in the driest season ever known.

It is true, the ground was highly manured, and the plants were occasionally watered, but doubtless, the rich alluvial lands, near water courses, would be found more congenial to this grass, and produce it in much more luxuriance. The curators are so deeply impressed with a prospect of success in the cultivation of this grass, in this country, that they cannot dismiss the subject without adding a few more observations, with a view of attracting attention towards it, as, in their estimation, it is peculiarly adapted to our soil and climate. It is a trite, and we apprehend, a correct opinion, that the greatest obstacle to the growth of the grasses in our climate, is the long and intense heats of our southern sun. The Guinea grass is a native of a hot climate, and heat is so congenial to its nature that according to the history of this plant, as far as we have become acquainted with it, the most luxuriant and abundant growth of it has always been found in the warmest climates. The most reasonable apprehension of failure then, in our climate, is from the opposite cause: there might be some reason to fear that our summers are not sufficiently long to bring it to perfection.—From the history of this grass, however, and from the experiments which we know, have been made in Carolina, we are sanguine in drawing the inference, that this apprehension is not well founded. It may be true, that the roots may not be able to sustain the severity of our winters, and therefore, may not be perennial. It may likewise be true, that our summers are too short to enable it to mature its seed for future propagation. Nevertheless, it is already proved that it is capable of attaining a most luxuriant growth, sufficiently so for affording the most abundant harvests of hay, and from this consideration, it will still be an object of great importance to introduce it into our country. The seeds may, probably, be imported from the West Indies on easy terms. And if it should realize the expectations raised by the specimens we have seen, it will yield so abundant and rich a crop of provender, as to amply justify the expense and labour of an annual seeding.

Whilst we are on this subject, we would beg leave to introduce a few extracts of the history of this grass. We are aware that these remarks, concerning it, are well known to many members of this society, but there may be others who have not yet had an opportunity of perusing them, to whom they may be perhaps acceptable.

In Bryan Edward's history of Jamaica, he says, that "Guinea-grass may be considered as next to the sugar cane in point of importance, as most of the grazing farms, throughout the island, were originally created, and are still supported chiefly by means of this herbage. Hence the plenty of horned cattle, both for the butcher and planter, is such, that few markets in Europe can furnish beef at a cheaper rate or of a better quality than Jamaica. Perhaps the settlements of most of the north side parishes are wholly owing to the introduction of this excellent grass, which happened about fifty years ago, the seeds having been brought from the Coast of Guinea, as food for some birds which were presented to Mr. Ellis, chief justice of the island. Fortunately the birds did not live to consume the whole stock, and the remainder being thrown into a fence, grew and thrived, and it was not long before the eagerness displayed by the cattle, to reach the grass, attracted Mr. Ellis's notice, and induced him to collect and propagate the seeds, which now thrive in some of the most rocky parts of the island, bestowing verdure and fertility on lands which, otherwise would not be worth cultivation." This is the first account we can find of this grass, and if we had no other inducement to a trial of it than its success in the island of Jamaica,

where it appears, according to a further account of it in the Memoirs of the Philadelphia society, that this grass is now cultivated on a most extensive scale, and that many fields containing from seven hundred to eight hundred acres, are under this cultivation—we presume we should, from this alone, be encouraged to prosecute the cultivation of it. Indeed it would appear surprising, that this grass could have been so long and so successfully cultivated, so contiguous to Carolina as the island of Jamaica, and that we should remain so ignorant of its adaptation to our soil and climates, were it not that agricultural improvements are always introduced with difficulty, and with still, more difficulty propagated by the individual efforts of any people. We find that Mr. H. Laurens did actually introduce the Guinea-grass into Carolina several years ago, and probably, because no such association as this society then existed, as a medium of dissemination, and as an incentive to emulation in prosecuting to satisfactory results any plan for improvement, the cultivation of this grass has made no greater advances in this country. It is satisfactory however, to find that Mr. Laurens, has given to the public an account of his experiment with it for one year. In the domestic Encyclopædia, we find, under the article of *Guinea-grass*, the following account of his experiment:—"In the last spring, says Mr. Laurens, I procured from Jamaica three half pints of Guinea-grass seed, which I planted in drills of one fourth of an acre of very indifferent land. The seeds sprang and soon covered the ground with grass four feet high and upwards.—Being desirous of sowing as much seed as possible, I cut only one bundle of grass for horses, they ate it all with great avidity. In August I took one of the grass roots and divided it into twenty-eight parts, which were immediately re-planted; every part took root and the whole are growing now very finely, and seeding I am of opinion this grass will make the best pasture we can wish for. From former experience, I have reason to believe the Guinea-grass is perennial. It is easily managed, requires but one hoeing, after which, it will take care of itself." This is the only account of the Guinea-grass in Carolina, which we can find, and this, you perceive, is of a flattering character, and well calculated to encourage to further attempts. The next most interesting experience of which we have an account, is by Doctor S. Brown, of Natchez, Doctor Brown says that his manager, "Mr. Ogelsby, at Percyfield, near Fort Adams, planted about the eighth of an acre of very sterile land, with plants obtained of Mr. Munson, in the first and second week in May. They grew without any trouble, except that of cutting down the first growth of weeds. On the 20th of June, he began to cut it for the use of the plough horses and mules, and continued to supply them with as much as they could eat of it during the whole summer. On the 25th of September, he wrote me he had cut it four times. From twenty roots he obtained at the fourth cutting, two hundred and fifty pounds of green grass, and in two weeks he would cut it again the fifth time." Doctor Brown, again says, "I did not begin to cut that which I had planted in Natchez, until the 16th of July. I then weighed the produce of one seed in the presence of a number of gentlemen at Mr. Robertson's hotel.—One hundred and sixty-four stalks, from six to seven feet high, growing from one root, weighed together thirty pounds.—At Mr. Winn's tavern on the 10th of September, a second cutting from one seed weighed thirty-five pounds. The number of stalks was one hundred and eighty-four, some of which measured ten feet eleven inches in length.—Some parts of the lot in Natchez is very poor soil, and the grass on these places did not grow higher than six or seven feet. But on a good soil, in a favourable season in this climate, I am persuaded it is a very moderate estimate to allow to every square yard ten pounds at a cutting, when we cut only three times in a season. This would give thirty pounds to every square yard, or one hundred and forty-seven thousand pounds green grass to the acre." We may here remark, that from a comparison between the product of one seed in Natchez, by Doctor Brown, and the product of one seed in Columbia, by Mr. Herbemont, we have good encouragement to further and extensive trials. Dr. Brown, it is true, produced a much larger quantity than Mr.

* As this paper is too long for insertion here, yet highly important, we refer our readers to vol. III. p. 42, Appendix of the Transactions of the Philadelphia Agricultural Society.

Herbement: but it must be recollected, that Doctor Brown's grew on the fertile lands of the Mississippi, and Mr. Herbement's on the poor land of Columbia. And if the plant in Columbia was so luxuriant, why may we not expect from the rich alluvial lands of our water course. When we recollect that the lands of Columbia is very elevated and thirsty, and the soil sandy and poor; and that the last season was the driest ever known; and yet that the plant cultivated here produced from one seed thirty-six pounds at one cutting; we certainly have solid ground of encouragement for attempting it on our richer soils. And even with regard to our apprehensions, that it may not prove perennial in our climate; and that it may not have length of summer sufficient to mature its seeds, we would remark, that we perceive some reasons for hoping, that on further trials, our apprehensions may prove to be not well founded: for you may recollect that Mr. Laurens, speaking of the appearance of transplanted roots, says, "the whole are now growing very finely and seeding." And again, he says, "from former experience I have reason to believe that the Guinea-grass is perennial." Besides these reasons for hoping that it may prove perennial, and mature its seeds in our climate, we are encouraged from the following remarks of Doctor Brown. He says, "I find very little difficulty in collecting the seed. I have already obtained a bushel of seed in return for three or four spoonfull which I sowed on my lot in town. I cut off about two feet of the top with the panicle as soon as the seed begins to fall; and after it is dry comb out the seeds with a coarse comb. I hope to collect at least two bushels of seed during the autumn." And he further remarks, that Mr. Munson, another experimentalist in this culture, informed him that "Mr. Laurens was correct, and that the roots which he examined last spring were perfectly green, and putting forth a great number of shoots." If, therefore, the seeds come to perfection at Natchez, and the plant is there perennial, we have reason to hope that it may ultimately prove so here.

Doctor Brown, in speaking of the soil best adapted to the culture of this grass, says, that "a rich black mould and a soil somewhat moist, I think produces the most luxuriant grass, but I have had very little experience on this subject." He is so much encouraged from his experiments, that he goes on to say, he hopes "before many years it will be tried in every climate in the United States, and on every variety of soil. No kind of grass with which I am acquainted supports the heat of the sun so well; and this property, was it even less productive, would recommend it to the notice of the agriculturist; for from the first of July until it is killed by the autumnal frost it will afford a constant and abundant supply of green food; and consequently enable the farmer, whatever may happen to his other meadows, to lay up a plentiful stock of hay for the winter. If the hay is cut before the grass is grown too tall, less than two days' sunshine will dry it completely. It is uncommonly fragrant, and horses prefer it to the best corn blades." He further argues in favour of its culture, that "an acre of corn will not yield more than from five hundred to one thousand pounds of dry blades. Considerable labour is necessary in gathering them; they are preserved with difficulty, as we cannot choose a favourable season; and with us they are always to be carried to the stack on the backs of labourers. As the Guinea-grass, on the contrary, retains its verdure for several months; we can always cut it when the weather is most promising. We can cultivate it on most plantations near the place where we wish to feed it; or it may be carted out of the enclosure where it grows.

If subsequent experience should confirm the principal facts which I have stated with regard to this grass, the intelligent farmer will soon perceive the advantage of cultivating it, instead of trusting to the scanty supply of blades which he obtains from his corn-fields, with such a waste of time and human labour. A Pennsylvania farmer who knows the advantage of a timothy or clover meadow, considers it a folly to spend time in collecting corn blades. If Guinea grass succeeds as well with others, and in every season, as it has done this season with me, and as it has done in the West Indies for more than half a century, the planters of the south will have no reason to

envy their northern neighbours their luxuriant clover pastures, or their numerous ricks of timothy hay. Meadows are generally the most fertile of every farm where they exist, and their value is augmented by their contiguity to the farm houses. If Guinea-grass is substituted for clover, timothy and lucerne, at least seven eighths of all the grounds appropriated to these crops, will be given to the cultivator for the purpose of raising subsistence for the human species." These experiments and observations of Doctor Brown, together with the samples we ourselves have had of its growth in Columbia, have inspired the curators with sanguine expectations, that the Guinea-grass may prove an invaluable acquisition to our state, and accordingly, they have recently made an effort for procuring a bushel of the seed from Jamaica: but whether they may be able to succeed in obtaining it or not, is uncertain. They can perceive no impropriety, however, that the society should make an order for its distribution in the event of its arriving in due time to plant. The curators have seen intimations, that attempts were about to be made to cultivate this grass in Kentucky, and even in England, but they cannot but flatter themselves that the climate of Carolina holds out much greater encouragement, for the successful cultivation of this southern grass, than more northern latitudes, and if, in those climates, they can be induced by its rich and luxuriant growth, to endeavour to cultivate it, we, in Carolina, certainly ought to feel much stronger incentives, and more sanguine expectations of success.

Directions for the culture of this grass may be found in Doctor Martin's edition of Miller's Gardener's Dictionary, under the article *Holcus Pertusus*—to which we refer those who may be desirous of information on this subject.

FROM THE NATIONAL AGIS.

WORCESTER CATTLE SHOW, &c.

As this subject engrosses, at the present time, the principal part of the public attention, we shall omit our usual political speculations, under our editorial head, the present week; presuming that articles relating to the particular objects of the institution, will be more acceptable to our readers. The following observations, in relation to the all-important subjects, which will arrest the public attention to-morrow, are well worthy the perusal of all who feel an interest in Agricultural, Manufacturing, and Mechanic improvements.

From the Albany Register.

He that maketh two blades of grass grow where but one grew before, does more for the good of society, than all the political partisans from the days of Aristotle to the present time. We would not wish to underrate the other professions. The merchant, manufacturer, mechanic, &c. are all necessary; but it is principally to AGRICULTURE we must look as the great source of our national wealth, and the strength and durability of our republican institutions. Commerce may fluctuate, or be wholly cut off; and the merchant who was worth thousands yesterday, may be worse than nothing to-morrow. The prices of manufactures may vary, and produce poverty and distress. It is not so with the farmer. He is in a great measure independent of these circumstances. His trade cannot fail him, while the earth endures and continues to yield her increase. He must, in some degree, like other classes in community, feel the pressure of the times; but notwithstanding this drawback upon his interests and pleasures, how much reason has he at the close of a fruitful season, when his granaries are crowded with the produce of his labour and industry, and his table loaded with plenty, to relax his cares for a season, and par-

ticipate in the pleasures of a festival peculiarly his own!

Arrangements have been made for blending utility and amusement in this rural celebration, and every one is busy in making ready for the joyous occasion. The sound of hammers in fitting up the implements of husbandry, "give note of preparation"—not for battle and slaughter, but for rivalry in the arts of peace. The farmer is furnishing—not his arms to meet the enemies of his country—but the *ploughshare*, that he may be able to bear off the palm of victory over his friends and neighbours. He is engaged in training—not the war horse, whose neck is clothed with thunder—but his peaceful team for the rural contest. Nor does the emulous and industrious house-wife neglect her part, but "plies her evening care" in putting the specimens of her skill in a state of readiness for exhibition.

The splendour of military glory, the sound of the drum and bugle, the neighing and prancing of steeds, the nodding of plumes, the glitter of armour, and all the pomp and circumstance of war may dazzle and delight for a moment; but what dissimilar associations does the scene awaken, and how widely does it differ in character from the one which is approaching! The laurel which entwines the hero's brow, is bathed in blood, and wet with the tears of the widow and orphan. But the civic wreath of the farmer is green from his own woods, unstained with gore, and unmixed with cypress. His achievements do not wring the heart with anguish, nor draw down curses upon his head; the shouts of his victory are not blended with the voice of wailing and distress; but the applauses of his fellow-citizens follow him from the field of contest to his rural shades, and he is remembered as the friend and benefactor of society.

The present number of members of the Worcester County Agricultural Society, amounts to about five hundred! Considering the infancy of the institution, (established but a little more than a year since,) it must surprise even the most sanguine and zealous of its supporters, that so many have become members within so short a period. Only about one hundred more are wanting, to entitle the society to receive annually from the commonwealth, the extent of its bounty six hundred dollars. We hope that enough will come forward to join it to-morrow, to make up the number necessary for this purpose. The trustees will meet at Mr. Eager's early in the morning, for the admission of those who may wish to become members. Let not this opportunity be neglected.

Members of the Worcester County Agricultural Society, who mean to partake of a dinner to be provided by Mr. Eager, to-morrow, (the 7th inst.) are requested to apply for tickets before 11 o'clock of that day, at the bar of his hotel.

Rules and Regulations.

To be observed at the Cattle Show and Exhibition of Manufactures, in Worcester, on the 7th October, 1819.

1. Marshals will be appointed to preserve order, and to carry into effect the arrangements of the day. It is expected and required of every

person attending the show, to follow their direction, and those of the trustees, that regularity may be observed.

2. The trustees will be in session at Eager's hotel, at 8 o'clock, A. M. for the admission of members, and the transaction of all necessary business. The society will move in procession *precisely* at 11 o'clock, to the South Meeting-house, where prayers will be offered, and an address delivered. The names of the gentlemen appointed judges and other arrangements, will then be announced.

3. All stock offered for premiums must be put in the pens, designated by the marshals, *before 9 o'clock, A. M.* and remain subject to their direction. And an entry of the same, stating the age and description of the animal exhibited, the name of the owner, &c. must be made in the book of the assistant secretary.

4. Gentlemen having animals of a superior size or quality, which it may not be intended to offer for premiums, are requested to add to the interest of the scene, by exhibiting them in pens which will be allotted for that purpose; and, by entering them in the secretary's book, they will be placed under the care of the marshals, and subject to the same regulations as other animals.

5. Animals must not be removed from the pens in which they are first placed, without the permission of a marshal.

6. The avenue between the ranges of pens, is intended exclusively for the trustees, judges, and members of the society. It is therefore expected, that no others will enter the same but by the permission of a marshal.

7. All articles offered under the heads of *Domestic and Household Manufactures*, must be exhibited in a building, which will be provided for the purpose, *before 9 o'clock, A. M.* A person will attend to arrange them according to their entry in the secretary's book, and will receive the certificates that the articles were manufactured in the county of Worcester.

8. Original and improved machines for facilitating Agricultural Labour, must be placed *before 9 o'clock, A. M.* in or near the building assigned for Specimens of Manufactures, and will be under the direction of a person appointed by the trustees to receive them. The necessary explanations respecting them, and all communications relating to Agricultural Improvements, will be received at Eager's hotel, by the judges appointed to consider and decide upon them.

9. Each committee will make and publish such other rules and regulations, as they may find necessary in the discharge of the trust assigned to them; and all persons concerned will conform thereto.

10. The premiums will be awarded in the Meeting-house, at 5 o'clock, A. M.

A public Dinner will be provided for the society, and all other gentlemen, who may be disposed to honour the occasion with their presence, at *Eager's Hotel*. Tickets may be obtained of Mr. Eager at his bar.

DANIEL WALDO,
THEOPH. WHEELER,
NATHL. P. DENNY,
LEVI LINCOLN, JUN.
EDWARD D. BANGS.

Committee of
Arrangements.

Worcester, Sept. 14, 1819.

We copy the above to let our Maryland readers see the style and solemn ceremony with which these things are conducted in the older states. We hope it will not be long before the same interest is manifested in behalf of the plough throughout our country.

For the creation of as much more wealth and abundance as they now possess, the *sober, hardy, and industrious* people of Connecticut and Massachusetts would not require any better means, than the present *waste uncultivated land of Maryland and Virginia*.—Ed.

Kitchen Garden, for October.

[From the American Practical Gardener.]

Parsnips.

Some parsnip seed may now be sown, the first week in the month, and if the remaining part of the fall should prove mild and favourable, they will succeed; but there is more dependence to be placed on those sown in August.

Lettuces.

In the first week of this month, transplant the lettuces from the late August and early September sowings, from their seed beds, into others of light rich earth, in a warm exposure, and of such dimensions, as to be covered with frames, on the approach of frost. Plant them in rows six inches distant every way, so that every other plant may be taken up for use, leaving the others sufficient room to head.

Lettuces designed to remain in the place where they are sown till spring, must be thinned, and kept free from weeds.

In the beginning of this month, sow some of the brown Dutch, hardy cabbage lettuce, Hammersmith hardy green, and green cos lettuce, in a frame, to be kept where sown, under the protection of glasses, &c. in order to afford a supply for forcing or planting out in the early spring months.

Cabbage Plants.

The young cabbage plants produced from the seeds sown last month, and intended for early summer cabbages, should be planted into the beds, in which they are to remain during winter.

Prepare a bed for them, the width of your garden frame, in a warm well sheltered place, where the sun has the greatest power, yet be careful never to admit the direct sun-shine on the plants, when in a frozen state, as this would infallibly destroy them; but when the plants are at these times secured from the direct rays of the sun, and the earth gradually thawed, its reflected heat revives them.

The plants should be set in this bed up to their leaves, three or four inches apart. When thus transplanted, they will survive the winter much better, than if left in the seed beds. Select good plants from the seed beds, and when planted, give them a gentle watering, though not too hastily.

Put on the frames immediately, and continue the glasses only for four or five days, till the plants have taken fresh root, observing to shade them from the mid-day sun with mats. But when they begin to grow, the lights are to be taken entirely away, and the plants exposed to the full air, except in very cold nights, or heavy cold rains, until the setting in of severe frosts, as it is of importance that they should be hardy on the commencement of cold weather.

When you have not the convenience of glass, the plants may be protected in winter by boards and mats.

In mild warm weather, when the sun is not powerful, give them the full air occasionally, and the oftener this can be done, provided they can be covered up again in due time, the better.

Plants that are in frames, and either the ground or plants frozen, must not be exposed to a *warm sun*, until they gradually become thawed, as this would inevitably destroy them; with these precautions, such

as are not frozen, will be improved by exposing them occasionally to as much sun and air, as will be prudent, till planted out finally in March, &c.

By pursuing this method, you will have much earlier and larger heads, than can be expected from plants sown in the early spring months.

Cauliflowers.

As cauliflower plants are more tender than cabbages, they will require the protection of glasses, and a good substantial covering, to defend them from the severe frosts, in the middle states. As they advance in growth, it will be proper to strew between them some dry tan, saw dust, or chaff, so as to cover the stems up to the leaves: this will afford great protection to those parts, which are most liable to be injured by frosts, &c.

If, in consequence of an unfavourable season, or not sowing the seed in due time, the plants are weakly or backward, prick them into a slight hot-bed to promote their growth; in this case, be particularly attentive to give them plenty of air. Protect these plants from heavy rains, especially when the nights are cold, as they would turn black, and be entirely destroyed.

In the middle states, when the winters are mild, with due attention, they will survive, if carefully protected, in garden frames, covered with boards and mats.

The late spring sown cauliflowers will now begin to show their heads, therefore they must be diligently looked over, two or three times a week, when the inner leaves should be broke down upon the flowers, which will protect them from sun, frost, and wet, either of which would change their colour, and injure them.

Winter Spinach.

Weed and thin your late crops of spinach; leave the best plants at the distance of three, four, or five inches asunder. Some of that sown in August will now be fit for the table, and if the plants were left too thick, let them be thinned cut regularly, by pulling some up by the roots, as they are wanted; but if the plants were thinned before, gather only the outside leaves, and the others will grow larger.

As spinach will rot off wherever the weeds spread over it, it is necessary to keep it carefully wed.

Hoeing, &c. Cabbages, Broccoli, &c.

Early in this month, hoe and earth up the late planted crops of cabbages, savoys, broccoli, and borecole, in order to forward their growth, as much as possible before winter: likewise the late cauliflowers, and every other of the cabbage tribe.

Winter Dressing of Asparagus Beds.

Towards the end of this month, if the stalks of the asparagus turn yellow, which is a sign of their having finished their growth for the season, cut them down close to the earth, clear the beds and alleys carefully from weeds, and carry them and the stalks from off the ground.

Asparagus beds should at this season, annually, have a dressing of manure, the dung of old hot-beds, or well rotted manure will answer: let it be laid equally over the beds, one or two inches thick; then stretch a line, and with the spade mark out the alleys, from about eighteen inches to two feet wide, agreeably to their original dimensions; dig the alleys one spade deep, spread the earth evenly over the beds, and give them a moderate rounding. In the middle and eastern states, it would be well to fill up the alleys with old litter, well trampled down, which will prevent the frost from entering that way to the roots.

In the southern states, a row of early cabbage plants may be set in the alleys.

The seedling asparagus, which was planted last spring, and intended to remain where planted, should have a similar dressing. The beds of plants, which were sown to be removed, should be cleared from weeds, and then spread an inch or two of dry rotten dung over it, to defend the crowns of the plants from frosts.

Asparagus should not be attempted to be forced sooner than November, as, before that period, the

roots will not be completely matured; however, about the middle, or latter end of this month, prepare the hot-beds for it.

Celery and Cardoons.

In dry weather continue to earth up celery and cardoons to blanch them.

Aromatic and Medicinal Herbs

Cut down all decayed flower stems, and shoots of the various kinds of aromatic, pot, and medicinal herbs, close to the plants: clear the beds very well from weeds and litter, and carry the whole off the ground.

Endive.

Continue every week to tie up some full grown endive for blanching, tying no more at a time, than in proportion to the demand or consumption.

Planting large Onions to raise Seed the succeeding Summer.

From the middle to the latter end of October is the most suitable time for planting out these bulbs, as they will have time to establish roots, which will protect them during the winter's frost. They will produce seed more plentifully, and be less subject to blight, if planted out now, than if left till spring; but when it cannot be done at this time, put them in the ground, as early as it can be prepared in February.

Choose a piece of good, rich, light ground, which dig a full spade deep, breaking it fine, as you proceed; select a number of the largest and best shaped onions, of the kinds you would wish, observing to plant each kind at a considerable distance from other kinds; lay this ground out in beds about three and a half feet wide, with a fourteen inch alley between each bed; then sown a line about six inches from the side of the bed, and with a spade make a drill about five inches deep, the length of the bed, in which lay the onions carefully on their bottoms, about nine inches from each other; then cover the bulbs about four inches above their crowns, remove the line a foot further on the bed, plant a second row as before, and so continue till the whole is completed; then with the spade, cast a slight dressing over the beds, from the alleys and rake it neatly.

In March, the leaves will appear above ground, after which, they are to be kept perfectly free from weeds, and towards the latter end of May, will have grown to their full height, when you must be provided with a sufficient number of stakes about four feet long, to drive into the ground close to the rows of onions, at the distance of eight feet from stake to stake, to which cords or strips of boards may be fastened on each side of the stems of the onion, a little below their heads, to support them from being broken down by the wind and rain, as the heads become very heavy, as they fill and advance to maturity, if each stalk is secured by cross pieces, &c. it will prove beneficial.

When the seed is ripe, which may be perceived by the capsules opening, and the seed turning black, the heads are then to be cut off, and spread thinly upon coarse cloths, in the sun, till quite dry; shelter them at night, and in wet weather; then beat or rub out the seed, fan it clean, expose it to the sun for a day or two, then put it in bags, and label it.

Jerusalem Artichokes. Carrots, Beets, &c.

Take up the roots, as you do potatoes, and secure them in like manner from frost; also, about the latter end of the month, begin to take up the roots of full grown carrots, beets, parsnips, turnips, &c. which are preserved.

General Remarks.

You should now give a general hoeing and weeding to all the crops, and carry the weeds immediately out of the garden, lest they shed their seeds, and lay the foundation of much trouble. Clean all vacant ground, from weeds and decayed stalks of all vegetables.

Dung and dig the ground, that has not a crop on it, burying the dung, as the ground may be thrown up into ridges, that the winter frost may meliorate it for spring use.

Prepare compost, in sufficient quantity, as follows:

mix equal quantities of earth, loam, and dung, lay this in a heap, and turn it over frequently, mixing it well every time, leave it exposed to the sun, weather, and frost. This manure will be necessary for the early plants next spring; but prior to using it, for several weeks, it should be preserved under cover, and carefully thawed.

Southern States.

In Georgia, South Carolina, and all parts south of the thirty-fifth degree of latitude, you may now sow the seeds of carrot, parsnip, beet, onions, parsley, cresses, spinach, and several other kinds of hardy garden vegetables.

Plant out from the seed beds, cabbage and cauliflower plants.

Sow peas, and plant early Mazagan and Windsor beans, with every other variety of the *Vicia Faba*.

In North Carolina, Tennessee, and the southern parts of Kentucky, plant the varieties of the *Vicia Faba*, sow peas, carrot, onion, parsnip, parsley, and other hardy seeds. Plant out cabbages and cauliflower plants; but the cauliflowers, if the winter is severe, will require the protection of hand glasses, oiled paper caps, or frames, and the like.

Extracts from a Compendious Dictionary of the Veterinary Art.

[Continued from No. 28, p. 219]

BOWELS. The bowels of horses and cattle are very liable to disease, the most serious of which is inflammation; this more frequently occurs in horses than in other quadrupeds, and from the rapid progress it generally makes, the most prompt and efficacious treatment is highly necessary. The most conspicuous symptom of this disease, is the excessive pain the animal seems to labour under, which causes him to be very restless, frequently lying down and suddenly rising again: he looks round to his flanks, and endeavours to strike his belly with his hind feet; his ears and legs are cold, and the violence of the pain often occasions profuse perspiration. A quick pulse, and redness of the inner surface of the eyelid, should be considered as characteristic marks of this complaint when accompanying the above symptoms. It is necessary to give a particular account of this disorder, because bowel complaints, which are commonly named colic, gripes, fret, &c. frequently happen to horses; and I am inclined to believe, that indigestion from improper feeding, flatulency from cold water unseasonably given, and other errors, are generally the causes of inflammation of the bowels. When inflammation has taken place in the bowels, to a considerable degree, medical aid will avail but little; therefore we should be particularly attentive to those symptoms, which indicate its approach and its commencement. In this, as in all other cases of internal inflammation, bleeding is the first remedy, and it must not be done sparingly. If the animal is costive, glysters and a dose of castor oil are proper; but if the bowels are loose, arrow-root or wheat flour gruel should be given. The belly and sides are to be well rubbed with the mustard embrocation. [See Mustard.] The legs also may be stimulated by the same means. If this treatment fails of giving relief, and the pulse becomes quicker and difficult to be felt or numbered, there will be no chance of the animal's recovery; but if he becomes easier, and the pulse slower and more distinctly to be felt, a favourable termination may be expected: it will be necessary, however, to allow only a moderate quantity of soft food, such as bran mashes, until he is perfectly recovered. A frequent cause of inflammation of the horse's bowels is immoderate purgation; it has been ascertained, that five drams of good aloes are, in general, a sufficient purging dose for a saddle horse; need we wonder then, that double this quantity, which is often given, should sometimes produce a violent and dangerous effect? In such cases it is not advisable to attempt to suppress the excessive evacuation

by means of opium or cordials: a safer and more effectual method is, to drench the animal frequently, if he refuse to drink it, with gruel made of arrow-root starch, or wheat flour; he may be allowed to drink also decoction of rice; should this fail, about half an ounce of tincture of opium may be given twice or three times in the twenty four hours. Inflammation of the bowels is sometimes attended with costiveness, both in horses and other animals; this is known by the dung being voided in small hard knobs generally covered with slimy matter, sometimes mixed with blood: here the first object is to procure an evacuation of the confined excrement, by means of oily laxatives and glysters: [see *Laxatives*] and as the disease is most commonly produced by what is termed a chill, that is, suddenly suppressed perspiration, and is accompanied by fever, other remedies are necessary. See *Chill*, *Molton Grease*, and *Dysentery*.

BOWEL-GALLED. A horse is said to be bowel-galled, when the girth frets and inflames the skin between the elbow of the fore-leg and the ribs. The part should be washed frequently with a solution of acetate of lead (sugar of lead) in water, about one ounce to two quarts of water; and the proper application of a crupper will serve to prevent its recurrence.

[To be continued.]

FOR THE AMERICAN FARMER.

DOMESTIC INDUSTRY No. 4.

Mr. Skinner—Spain, when invaded by the Romans, appears from history to have been considerably advanced, before all the other nations of Europe, in agriculture and the other useful arts. The Romans were astonished at their fertility, and she became the granary of their empire. She maintained her superiority, from that time till the latter end of the fifteenth century, when prompted by bigotry, she expelled the Moors, the most valuable because the most learned, ingenious, and industrious of her subjects. From that period to the present, she has been descending in the scale of empire, at least if compared with surrounding nations. Her bad policy prostrated those manufactures, with which for ages she had supplied Italy, France, Germany, Holland, and England. Her merino wool, itself an ample source of national wealth, was sent abroad, and there exchanged for manufactured clothing. Her manufactures of silk, of which for centuries she had been the emporium rapidly declined; and even her iron and steel ware, the best in the world, sunk into mediocrity. Nor did her agriculture share a better fate; for even at this time, Spain, the finest country in Europe by nature, capable of supporting a population of thirty millions, has, with only ten millions, to trust to her neighbours for two thirds of her sustenance. So long, however, as the wealth of South America was waited to her ports, and distributed through her provinces, it in some measure supplied the place of better policy, and tended to counteract the baneful effects of bad government, Spanish indolence, and Castilian pride. As long as she had plenty of gold and silver to give in exchange, her neighbours had no objection to supply her with every necessary and luxury of life. But Spain's golden age is nearly past, it must soon terminate for ever. Then, like other spendthrifts, she will be forsaken; and must either work or starve.

Let us now come home and recollect, that to more than twenty years of the late European wars the greater part of the commercial profits of the world was conveyed into our ports. These profits, together with the extraordinary demand for the produce of our soil, served to make up the balance of trade, which, under other circumstances, would have been against us; and answered for that time, a similar purpose, to that which South American gold and silver effected for a much longer period in Spain. During our embargoes, non-intercourse, and late war, the United States were growing rich against their will; but no sooner were the floodgates of commerce thrown open, than all their wealth rushed out in search of more; but has not yet returned;—Folly attempted to supply its place with paper bubbles;—these have burst, and left a wreck behind. Such have been the consequences to Spain and the United States, for neglecting their own manufactures, and bartering their raw materials for the produce of other nations' industry.—Generous nations! You are willing to ruin yourselves, in order to encourage the industry of others.

COGITATIVUS.

OCCASIONAL EXTRACTS.

Mr. Skinner.—Believing it would promote the more general diffusion of the arts, were notices of patented improvements occasionally published in some extensive circulating paper, I shall, if it meet your approbation, now and then forward you concise descriptions of new and valuable inventions, particularly of such as are connected with agriculture; and, as the commencement of the plan, I offer you the following notice of

Tisdale's Grain Cleaning Machine.

The body of this machine is the frustrum of a cone, having a case of sheet iron which is perforated all over: the holes being very close together and about half the size of a grain of wheat. On the surface of the inner cone, stiff bristles are closely and firmly set, which come in contact with this perforated case. The machine acts perpendicularly, its motion being somewhat similar to that of a coffee mill, the bristles acting as so many teeth, which forcibly press the grain against the inner side of the perforated case, and through these holes every thing smaller than the grain is worked out. The grain descends into a shoe which has a sieve bottom, the openings of which are also smaller than the grain. Now to prevent larger substances from entering the machine, the hopper at top has a sieve, shoe or basin, the spaces of which are sufficiently large to allow the grain readily to pass through, but not so large as to allow any substances to pass which are over the size of the grain.

It is worked by a crank, and the hopper is kept agitated as in the common mill, to cause the grain to pass rapidly. It is confidently believed that this machine will separate the wild onion seed from wheat. Its construction is simple and cheap, and I doubt not it will become eminently useful to our extensive growers of wheat, for whose use it is particularly designed,

although it can be adapted to every species of grain.

Yours respectfully,

MECHANICUS.

Washington City, Sept. 1819.

We understand the inventor, Mr. Ephraim Tisdale of Herkimer N. J., has authorized Mr. Wm. Blagrove, agent for patent and copy rights at Washington, to dispose of rights to the above described machine.—*Ed.*

Mr. Skinner.—I beg you will encourage your fair readers, (who are under great obligations to you, for your endeavours to improve their husbands and their husbands' lands,) to attend to their poultry yards, by letting them see how profitable they may be made.

I state from good authority, that several thousand turkeys maybe hired out in Prince George's county, during the next summer, at the rate of 25 cents a piece per month and found. They will be returned when their work is done, and if any are overworked or die from any other cause, they will be paid for at the rate of 75 cents each. Some of your distant readers, who know nothing about tobacco, may think this notice is a quiz. But I assure you, these wages were actually offered the last summer. Now it will certainly be desirable to encourage the breeding of this useful animal, and after having helped the planter in his crop, the turkeys themselves will be almost as good chewing as the tobacco, and if they are killed pretty soon in the season, they may even have a fine relish of it.

I am, Sir, yours,

A CHEWER.

NOTE—The Editor of the American Farmer, being the agent through whom all communications passed between the government, and the commanding officer of the enemy's squadron in the Chesapeake during the war, had frequent occasion to go on board, where he was often compelled either to "keep fast," or to dine on poultry and live stock plundered from his own countrymen and friends. He recollects that, dining with Admiral Warren the day that a large detachment advanced upon St. Michaels, in September, he was invited to partake of some "turkey poults and oysters."—It was the first time he had heard the term, and never having seen turkeys eaten at that age, knew not what they meant.—They were the size of dunghill fowls, and no doubt thoroughly impregnated with the contents of tobacco worms. He declined the invitation, and dinner being removed, he took occasion to explain to them, as our correspondent has done, their great utility in devouring tobacco worms at that season, and we have some reason to hope, that this insight into the natural history and propensities of the nice "turkey poults," had the effect of saving the flocks of many good house wives from the ravages of enemies, from whose rapacity nothing was too sacred or too humble to escape.

Not knowing whether it has been before mentioned in the Farmer, we take this opportunity of communicating to our fair readers, some of whom may never have seen it practised, a method commonly used for curing young chickens and turkeys of what is commonly and very signifi-

cantly called the gapes. This destructive complaint is well known to all those who know any thing about raising poultry, and appears somewhat to resemble the asthma, or it may be the whooping cough. It is for the most part attributed to their being permitted to wander forth in the dew of the morning, at too early an age, but as we are not doctors, we will not presume to assign the true cause of the disease, much less to say whether it be infectious, contagious or otherwise—but considering what a great obstacle it is to success in raising of chickens and turkeys, and how much it enhances the price of both, we are of opinion that the cause of the disorder is not beneath the consideration of the learned faculty, and that even the so much and deservedly celebrated Doctor Mitchell would lay all good house wives under obligation, if he would turn his attention to the cause of gapes, asthma, whooping cough, or whatever it may be called in turkeys and chickens; for be it known, that other domestic fowls are not subject to it.

Cure for the Gapes in young Chickens and Turkeys.

Set fire to tobacco in a large iron pot, put the chickens or Turkeys in a common white-oak basket, and place that on the top of the pot. Then throw a blanket or other close covering over the whole. The tobacco smoke passes into the basket, and when the chickens or turkeys are nearly suffocated and overcome, turn them loose in the air; this several mornings repeated will effect a cure. When turned loose they are quite drunk and unable to walk—we have often seen some die away and never revive—but the more they are affected the sooner they are cured, provided they are not entirely killed.

* * As the smoking of the root of the Jamestown weed has been found to give great relief in the asthma, it may be that it would answer better than tobacco, in the case in question; we hope some of our fair correspondents will give it a trial.

Lexington, Va. Oct. 2, 1819.

Mr. Skinner.—Having paid some attention to the improvement of an orchard, I have been induced to direct my inquiries to the best mode of fermenting and managing barreled cider, and have noticed the process directed by Mr. C. Jones, as published in your paper. It does not differ essentially from the course pursued at Newark, which is said to be the most approved. I have not succeeded to my satisfaction in ascertaining the best course of management, in preparing and bottling cider. If you are acquainted with it, you would render an essential and acceptable service to the public by making it known, as when well prepared, I believe that there is no other beverage so generally esteemed. The principal difficulty I apprehend is in making it fine and brisk, the latter to be so regulated as not to burst the bottles. The best that I ever met with was some years ago, at the Indian Queen, in Baltimore. Mr. Stuart, (the bar keeper) informed me that it was bottled by a Mr. Hillen, about ten miles from that place.

[The Editor will be much obliged to Mr. Hillen or any other gentleman, for information on this point.—He has himself made his bottled ci-

der very baish, by putting in each bottle two or three raisins, or a small quantity of honey—but a great many bottles were bursted.]

Annapolis, Sept. 26, 1819.

Mr. Skinner,—I wish you would obtain the most approved mode of getting out and cleaning clover seed, and publish it.

If you could get Samuel Sproston, of Cecil, to furnish you with his mode of cheese making, you would benefit the community. He makes the best American cheese I ever ate.

Publish an account of the method of cultivating the onion in New England.

Hillsboro, Md. Oct. 1, 1819.

Mr. Skinner,—I will take occasion to remark to you, that the crops of corn, as well as the gardens and crops of potatoes, in these adjoining counties, so far as I have learned, are extremely short. Perhaps there will be as much corn made or a little more, as in 1816, but all other fall crops are less.

District of Columbia, Oct. 12 1819.

My dear Sir—You have requested communications respecting the Chile wheat, brought by Judge bland, and distributed by you. You recollect you gave me a little over half a pint. I divided it equally with my friend H——. My share I carefully cleansed from dirt and small seeds, with which it was mixed, and after soaking it for twenty-four hours in water, sowed it on 1500 square feet of ground, about Christmas. The ground was naturally poor, but had been slightly manured. The wheat never had so thriving an appearance, as my other wheat, although it in the end yielded much more. I yesterday measured the product and sowed it on 3 quarters of an acre of ground—the quantity was exactly half a bushel and three pints, struck measure.

Should my three quarters of an acre yield in any degree like the parcel you sent me, I shall have next year upwards of fifty bushels. I shall let you know the result.

THE FARMER.

BALTIMORE, FRIDAY, OCTOBER 15, 1819.

From the Richmond Inquirer.

THE CROPS.

We have been favoured with the following communications from various parts of the country. As to the tobacco crop, we have no accounts on which we can depend. From one district of the state, we learn that it will be below the average crop.

Extract of a letter from a gentleman at Tappahannock (on the Rappahannock river) Essex county, Va. dated 30th September, 1819.

I have taken some trouble to inform myself on the subject of the present crop of corn, and from what I have collected, I am of the opinion there is about two thirds of an average crop in this neighbourhood, and perhaps the county will average something over a half."

Extract of a letter from Columbia, Tenn. dated 22d August, 1819.

"Crops of every kind look remarkably well. Pork will be very plenty, and will command five dollars. It is thought corn will be bought this fall for fifty cents per barrel of five bushels."

LARGE APPLE.

The Geneva Gazette, of Wednesday last, states that Mr. A. B. Hall, of that village, raised an apple in his garden this season, which weighed one pound and six ounces. The same paper mentioned the week before, an apple that weighed one pound and five ounces.

Silas Reed, Esq. of Plainfield, in the state of New Hampshire, raised the present year, from one acre of ground, one hundred and three bushels and two quarts of Indian corn. The land was accurately surveyed, and the grain was measured by two persons chosen for the purpose.

WHEAT.

Buffalo, N. Y. September 14.

Considerable quantities of Wheat of the first quality, were sold at Fredonia, Chataque county, during the last week, at thirty-seven and a half cents per bushel; and the Gazette States, that it did not meet a ready sale even at that price.

TIMELY NOTICE.

As apples, corn, and pasture, have in a great measure failed in New Jersey, this season, our customers in other states will have to make New-ark Cider, Burlington Hams, and English Cheese, for themselves. And as for Irish Potatoes, we who usually have so many to spare, will this year have to look to New England for a supply.

American.

On the 15th September, (says the Trenton Federalist,) we had a smart white frost. The country still suffers from the long drought; and much inconvenience is experienced in procuring the necessary grinding of grain for domestic use.

Albany October 1.

Vessels are continually loading at our docks with oats, corn, potatoes, pompons, onions, and other garden vegetables, for New York, New-Jersey, Philadelphia, &c. It would seem that these crops have been cut off on the whole line of coast from Connecticut to Carolina, and that the articles enumerated are in demand to supply the failure. Thousands of bushels of potatoes, onions, and corn, in the ear have been shipped from this place. The prices now paid, are for onions 75 cents per bushel, potatoes 30 to 37 cents, corn 25 cents the bushel for the ears, and oats 37 cents. At Washington city potatoes are stated to be worth one dollar fifty cents, to two dollars the bushel.

Argus.

TANNING.

A mode of concentrating the tanning properties of a cord of bark, into a cask of less size than half a barrel, having been discovered some time since, it has been successfully reduced to practical use. This will essentially aid our domestic

tanneries, and add a valuable commodity to our exports, probably only limited in its extent by the wants of Europe and our own industry.

Albany Adv.

CURE FOR THE GOUT.

The best cure for the gout is to apply a leek poultice to the part affected.—Numerous instances of its efficacy, in this painful disorder, have recently occurred. Its culture should be cherished as a medicine of inestimable value.

NAVIGATION OF THE SCHUYLKILL.

The Norristown Herald gives the information, that the works which are to render the Schuylkill navigable, are in fine progress. Last week the dam built at Matson's Ford, a few miles below this borough (Norristown) was closed, which dams the water into the lower lock, below the Swedes Ford, and makes a complete slack water navigation from that place to Philadelphia. The canal and locks on the western side of Schuylkill will be completed this season. Next summer we may have steam boats plying up and down the Schuylkill.

MR. SKINNER—I recollect to have read in your useful paper, some account of the effect of sassafras upon vermin, that infest beds, bedsteads, &c. In St. Peirre's Studies of Nature, vol. ii. p. 35, I was struck with the following lines, which, if you please, you may publish in the Farmer.

"I have heard of an old officer, who being very much incommoded with bugs, at the hospital of the invalids, permitted the spiders to multiply round his bed, and thereby get the better of that nauseous vermin. This remedy, I am aware, will appear to many persons worse than the disease; but I believe it is possible to find others more agreeable, in perfumes and oily essences; at least, I have remarked, that the odour of various kinds of aromatic plants put to flight those abominable animals."

Sassafras is, I believe, aromatic, which proves that St. Peirre's observation was correct; and that any other aromatic plant or tree would have the same effect.

H.

Baltimore, Oct. 13, 1819.

HUMOUR.

Revenge; or Fatherly kindness.

A vixen wife, who felt the horsewhip's smart, Ran to her father—begg'd he'd take her part, "What's your fault?" said he; "come state, the case."

"I threw some coffee in my husband's face, For which he beat me!"—"Beat you did he! s'life! He beat my daughter! zounds! Pl! beat his wife; If for such faults he gives my daughter pain, Come but his wife—I'd whip her home again."

BALTIMORE,

PRINTED EVERY FRIDAY,

For John S. Skinner.

AT FOUR DOLLARS PER ANNUM,

PAYABLE IN ADVANCE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O Fortunatos nimium sua si bona norint
Agricolae. . . . VIRG.

VOL. 1.

BALTIMORE, FRIDAY, OCTOBER 22, 1819.

NUM. 30

HORTICULTURE.

FRUIT GARDEN, FOR OCTOBER.

(From the American Practical Gardener.)

Winter Pears and Apples.

Gather your winter pears and apples.

Pruning.

When the trees have completely shed their leaves, you may begin to prune many kinds, but by no means do it before.

The pruning of peach, nectarine and almond trees, would not be proper to be done, before the latter end of February, in the middle states, nor before the first week in March, in the eastern states. In the southern states this work may be performed at any time between the period of shedding their leaves, and the beginning of January.

Apples, pears, cherries and plums being hardy trees, may be pruned at any period, between dropping their leaves, and the first swelling of their blossom buds.

Planting Fruit Trees.

Towards the latter end of this month, most sorts of fruit trees may be transplanted, and particularly such kinds as have shed their leaves. The ground must be dry and not subject to water laying on it, in winter; each tree must be strongly fixed in its place, by tying it with straw, mats, &c. to a stake, drove into the ground, it must be so fastened as not to be rocked about by the winds.

In the southern states, as well as in other parts of the union, these plantations should all be completed before the buds begin to swell.

The latest ripening fruits, particularly late peaches, should be planted in a place of warm aspect, and also some of the earliest kinds, to have them in perfection at an early period.

Apples and pears for walls and espaliers, should be planted twenty feet from each other.

Plums and cherries to be planted from fifteen to eighteen feet, if designed for espaliers.

Peaches, apricots, and nectarines, not less than fifteen feet, if against walls, &c.

Planting Gooseberries.

Towards the latter end of this month, or early in November, is the most suitable season to plant these trees. They may be set round the borders of the kitchen garden, from two to two and a half feet from the walks, and about six feet distant from each other, always keep the ground under, and immediately contiguous to each bush, entirely free from weeds or plants of any kind, as it will endanger the fruit becoming mildewed and ruined.

When you have an opportunity of obtaining superior kinds, you may take cuttings from these, and plant them where they are to remain for fruiting. Old bushes seldom produce well, after transplanting. Previous to planting, prune them to one clean stem, of ten or twelve inches, before the head is formed.

Pruning and Propagating Gooseberries.

The latter part of this month, and the whole of next, will be a very suitable season for pruning gooseberries. New varieties of this valuable fruit may be obtained by sowing seeds of the best kinds you are able to procure, either in this, or any of the autumn months, in beds, in the open ground, or in boxes of good earth. From these seeds the plants will rise freely in spring; and by the succeeding spring they may be planted in nursery rows, till they show specimens of

fruit, then those that are good may be taken due care of, the others, by far the greater number, may be thrown away. When sown, cover them near half an inch deep with loose rich earth. If kept till spring, the seeds will not vegetate freely.

Planting Raspberries.

If raspberries are planted between the middle and latter end of this month, and the shoots are strong ones, they will strike new roots before winter, and produce some fruit next season, but the succeeding year, they will bear plentifully.

Propagating Fruit Trees by Layers and Suckers.

The young shoots of mulberries, figs, filberts, vines, &c. may now be laid in the earth; they will all be fully rooted in twelve months.

Suckers may be taken from berberries, filberts, &c. digging them up, with good roots in each, and planting them where they are to remain.

Dressing Strawberry Beds.

The old strawberry beds should have their winter dressings this month; they should be cleaned from weeds, and the runners taken off close to the plants; loosen the earth between the rows to a moderate depth with a small spade, taking care not to disturb the roots; line out the alleys, and let them be dug, breaking the earth very fine, and spread a portion of it over the beds, between and round the roots, but do not bury their tops. A slight top dressing of well rotted dung, will be proper. This dressing will be a means of producing a more plentiful crop next season.

Preserving Stones and Kernels of Fruit.

Preserve in damp earth or sand, the stones of the various kinds of fruit you intend to sow for stocks. Pear and Quince kernels may be preserved in dry sand. To provide apple seed, procure as much fresh pomaceas may be necessary, wash the seed clean, and when you have a sufficient quantity for your purpose, dry it well on cloths, secured from wet, afterwards put it by, in bags or bottles, well corked and labelled.

NURSERY, FOR OCTOBER.

General Observations.

Continue to trench and prepare the several quarters, in which you intend to plant stocks, to graft and bud the several sorts of fruit upon, and also for the various other planting and sowing, that may be necessary.

Carry manure into those parts of the nursery, where it is wanted, and spread it upon the surface of the ground, round the stems of young trees; this will contribute to the preservation of their roots from frosts; the rains will wash in the salts to the roots of the trees, and in spring you may dig in the manure between the respective rows.

Propagating Trees and Shrubs by Layers.

This month lay the various kinds of trees and shrubs, which you wish to propagate in that way.

This is the best season to lay elms, limes, maples, most kinds of hardy forest trees, and flowering shrubs, for the moisture of the ground during winter will prepare them for pushing out roots early in the spring.

Towards the latter end of the month, take off such layers of the preceding year, as are well rooted; trim their stems, and plant them in nursery rows or elsewhere.

Propagating Trees and Shrubs by Cuttings.

Plant cuttings of all hardy trees and shrubs, that will grow by this method.

Cuttings of all sorts, planted a year ago, or last spring, that are well rooted, may towards the latter end of this month, be transplanted into nursery rows, *Planting Acorns, Chesnuts, Chinquapines, Walnuts.*

Hickory-nuts, &c.

The best season in the year for planting acorns of every kind of oak, and also all the nuts enumerated above, is immediately after they fall from the trees, for when kept out of the ground much longer in a dry state, they lose their vegetating principle.

By sowing them at their proper season, they are subject to the depredations of mice, rats, and moles, therefore it is recommended by many gardeners, to preserve them, till the early spring months, either in sand, earth, or moss, and although they will sprout, yet this vegetation will not materially injure them, if they are set in a cold place till winter, provided the small radicles are not broken, when planted in spring.

The acorns, when planted, should be in drills about two feet apart, and within an inch of each other in the drills, and covered about an inch deep, where they may remain, till they have had two year's growth, when they must be taken up, and planted in nursery rows.

Chesnuts, walnuts, and hickory-nuts, may also be planted in autumn, immediately after they are ripe, in their outward covers or husks, the extreme bitterness of which, as well as the species of the chesnut, will preserve them, in some measure, against the attacks of vermin.

Chinquapines ripening earlier than chesnuts, should, as soon as they have arrived to maturity, be planted in their husks, as the vegetative germ in most of them, is destroyed by the worm, particularly if kept for any length of time. They prefer a lean gravelly soil, and do not rise above 20 to 30 feet high. After these are planted, cover them about an inch with good earth, and when they have two years growth, they, as well as the chesnuts, may be taken up, and planted in nursery rows.

The *Juglans Regia*, or European walnut, also the soft shelled hickory-nut, and oval shaped Illinois-nut, when they are to be cultivated for their fruit, you should make choice of the best nuts, of the varieties you wish to propagate, such as are large, thin shelled, and have the finest flavoured kernels; plant them in drills three feet asunder, and the nuts to be planted about six inches from one another in the rows.

The whole of the above kinds may remain in the seed drills, for two years, and as they are generally subject to strike down, and not to force out many lateral shoots, it will be necessary, when they have had one or two years growth, to open a small trench, close to each row, in the spring, and with a very sharp spade, to cut the top roots about six or eight inches under ground, and afterwards throw back the earth. This will cause them to shoot out a number of laterals and the spring following they may be transplanted into nursery rows, to remain till finally planted out.

But the European walnut will answer better to be planted where it is to remain for fruiting. When it is to be cultivated in this manner, previous to planting it, dig a hole about two feet wide, and eighteen inches deep, in which place a flat stone, two feet square, then fill the hole up with good earth, plant three or four walnuts in the centre, that there may be a greater certainty, of having one plant in the place in the spring. The stone is intended to compel the top root to put forth lateral shoots, without injuring the growth of the plant, and besides, when the top root

is mutilated, although the tree may flourish for a few years, yet when it arrives to a full size for bearing, it gradually decays; but if the top root is not diverted from striking to a full depth into the soil, it will prove an excellent timber tree, but will not be so productive as a bearer.

When oaks, chestnuts, walnuts, or hickories are planted exclusively for their timber, it will be far preferable to plant the acorns and nuts, when they are to remain for full and mature growth, as timber and forest trees seldom attain to so great a magnitude, after their top roots are cut off, and they transplanted, as if suffered to remain undisturbed, where the seeds were sown. This remark, of course, offers an objection to the nursery culture of timber trees.

Transplanting Stocks to Bud or Graft on.

Plant out into nursery rows, all the hardy kinds of seedling stocks, to bud and graft the different varieties of fruits upon.

Where stocks can be had in sufficient quantities from seed, they are always preferable to suckers from the roots, but where there is a deficiency of the former, the latter will answer. Plant them in rows 3 feet asunder, and 1 foot distant from each other in the rows.

Transplant all well rooted cuttings and layers from the shoots, for the purpose of raising stocks, particularly quinces and codlins, to bud and graft dwarf pears and apples upon, to form dwarf trees for walls and espaliers.

Planting Hardy Deciduous Trees and Shrubs.

Hardy deciduous trees and shrubs may be planted into nursery rows, or where they are finally to remain, immediately after they have shed their foliage.

Pruning.

In the latter end of this month, begin to prune most kinds of hardy deciduous forest and fruit trees, flowering shrubs, &c. clearing their stems from lateral shoots, taking off suckers, and forming their heads in a neat manner.

Sowing Stones of Fruit Trees.

The stones of plums, peaches, nectarines, apricots, &c. may now be sown, or they may be preserved in sand, &c. to be sown in March.

The accomplished Editor of the N. Y. Evening Post has collected and made public the history of numerous cases, to show the efficacy of the SCULLCAP for curing the bite of mad dogs. It would seem, however, that after all his zeal, he has not entirely succeeded in convincing all his learned readers in N. York. We know, however, that when the fertilizing properties of Plaster of Paris were first proclaimed, the *Docti* and the *Indocti*, the learned and the vulgar, pronounced it nothing more or less than quackery or witchcraft. We pray that few occasions may offer for testing the virtues of the Scullcap, on the human system; but we deem it a sort of duty, to record in a paper like this, the particulars of investigation, prompted by humanity, and pursued with so much zeal and perseverance.—Ed.

ON THE CURE OF HYDROPHOBIA.

Hydrophobia—I promised yesterday to resume to-day the subject of mad dogs; but, if I had not, the case which I have just read from the Philadelphia papers, and which we re-publish this evening, would render some remarks at this time, on this awful and alarming topic, highly interesting and pertinent. This case is attested by two eminent physicians, and they add, that hydrophobia "is without the hope of a relief from medicine" "we know of no cure for hydrophobia." This is a frank confession, and I have scarcely a doubt, accords with the truth. It is a disease, which, when once having arrived at that pass, as to show itself by the usual symptoms in the system, baffles equally the skill of the most learned physician, and the nostrums of the boldest empirick. But, fortunately, it is not so rapid in its progress, but that it may be arrested, and entirely counteracted and prevented, if proper means are seasonably resorted to, duly administered, and faithfully persisted in. These means nature has provided, in the plant called the *Scullcap*, which grows almost every where in abundance, in our country. It is not, however, every species of the plant bearing this

name, that will answer, but that particular one, called in Latin, *Scutellaria Latiflora*, or side-bearing flower, and not that one called *Scutellaria Galericulata*, or helmet-shaped. The former of these is efficacious in preventing this incurable disease; the latter is not. A mistake in taking one for the other has sometimes produced fatal effects, and brought the plant into discredit at the eastward. Sometime since there was published in the Medical Repository, [hexade 3, vol. 2, No. 3.] an account of this plant, with an engraving; but there was an error in the text, as to the species; nor was the engraving, which was after the right sort, sufficiently accurate to correct the mistake.

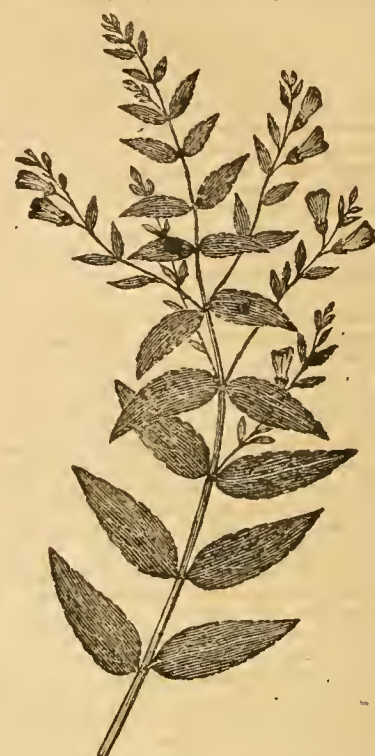
Of the superior merits of this invaluable plant, in the bite of a mad dog, as evinced in particular instances, I have not room here to give any more than a general outline. Dr. Vandever left it on record, that in upwards of three hundred cases, in which he seasonably administered it, the success was complete without a failure. Lewis asserted, that he had met with the like success in upwards of one hundred cases, of three or four of which, I was myself (happening to be in the county of West Chester at the time) an eye witness. Dr. Thatcher, in his valuable Dispensary, speaking of it, says "Should this plant ultimately prove a successful remedy for a disease so truly deplorable in its nature, and so destructive in its consequences, no encomiums can surpass its merit even if recorded in letters of gold." The following is his description of it:

"The scutellaria is perennial, of which there are numerous species indigenous to the United States. The plant is found in great abundance on the banks and borders of ponds; flowering in July or August. The stem is square, branched, and attains the height of from one to three feet. The leaves are opposite narrow pointed or narrow foot stalks. The racemes are axillary and lateral, bearing small violet coloured blossoms, intermixed with small leaves. The calix is hooded, or helmet-formed, from whence originated the genera name of scull-cap or scutellaria." This, however, is a description of the genera, not the species.

Impressed with the deep importance it is of to the public, that those different species should not be confounded, we have procured an engraving to be made by Anderson, of each of the plants. Here follows an engraving of the true plant.



The following represents the spurious one.



The eye will soon detect the material distinctions while at the same time it will see a general resemblance.

The following is the manner in which Dr. Vandever and Mr. Lewis prepared and administered the remedy, as we find in Thatcher's Dispensary.

"The leaves should be gathered when in flower, (July or August) carefully dried, and reduced to a fine powder, and put into bottles, well corked, for use. When a person has received a bite by a mad dog, he must take of a strong infusion of the leaves or powder, a gill four times a day, every other day. The day it is omitted, he must take a spoonful of the flower of sulphur, in the morning, fasting, and at bed time, in new milk, and apply the pounded green herb to the wound every two hours, continuing the prescription for three weeks. For cattle or horses, three times the quantity of each."

Thus I have, in the shortest and plainest manner I am able, treated of a subject, now, particularly, in the highest degree interesting to the community at large. And I have done so in the full and unshaken belief in the virtue of the plant, here recommended to the public, and perfectly aware of the deep responsibility I assume, in thus trying to persuade the patient and the physician to put life itself upon the issue. With the late benevolent Robert Bowne, whose letters on this subject are published at length in the Medical Repository, and in Thatcher's Dispensary, I can with great truth declare, that my confidence in the virtue of this herb, is so great, that, if bitten myself, I would trust my life to it, rather than to the skill of all the physicians in this city.

N. Y. Evening Post, May 8.

FROM THE SAME PAPER.

We now redeem our promise, by giving the statement of the case of James Cann, who was bitten by a mad dog, and cured by the plant called Scullcap, as drawn up and furnished us by his two physicians.

"Early on Thursday morning, the 10th June, I was called upon by James Cann, who requested me to dress his right hand, which had just been bitten by a dog, that he believed was mad. Upon examination, I found the dog's teeth had penetrated deep into the muscular part of the thumb, between its metacarpal

bone, and that of the fore finger, and that the skin was but little lacerated. From the situation and depth of the wound, I deemed extirpation inexpedient, and directed superficial dressings telling him, at the same time, if the dog should prove to have been mad, he had nothing to fear, as a plant had been discovered (showing him a drawing of the *scullcap* in the Evening Post,) which had never been known to fail in such cases, when properly administered. In the evening I saw him again, and then advised him to call on Jesse Williams, the son-in-law of the late Mr. Lewis, of West Chester, and procure from him a quantity of *scullcap*. He did so, and obtained about three ounces of the dried herb, finely cut up, with directions to put a tea-spoonful and a half of it in a quart of warm water, and to drink half a pint of this infusion morning and night, for two successive days, and on the third day to omit it, and take a tea-spoonful of flour of sulphur. In this manner Williams directed the *scullcap* and sulphur to be alternately used for forty days; during which time, exercise was to be avoided, and an abstemious diet observed: he thought the wound required no other attention than simple dressings. Mr. Cann strictly followed the above directions, and remained free from complaint till Thursday the 17th. About noon he was suddenly taken ill, and sent for me. I found him labouring under frightful spasms of the muscles of the face and neck, his face was drawn towards the right shoulder, his head convulsively shaken, he ground his teeth with violence, his eyes had a wild and terrific stare, and his whole aspect was appalling; but the spasm soon subsided, and he became perfectly calm. Upon inquiry, I found he was first attacked with a shivering, then a pricking or tingling sensation about the parts bitten, extending over the hand, and running up the arm, accompanied with alight involuntary twitchings of the muscles of the hand and arm; to these succeeded a sense of tightness about the chest and throat; immediately after which followed the convulsive action of the muscles of the face and neck above described. I found his pulse and breathing regular and natural during the intervals; but when the paroxysms were approaching, they became hurried and irregular, and continued so till the spasms had gone off, when he complained of slight pain in the right breast, together with soreness and stiffness of the back part of the neck. Liquids he took without difficulty, nor did pouring water from one vessel to another, in his presence, produce any perceptible distress. neither did the sight of the surface of a polished mirror, or the waving of a white curtain, sensibly affect him. His paroxysms returned at irregular intervals of from five to ten minutes; their duration being from one to two minutes. His bowels being constipated, I gave him a scruple of calomel, and directed him to drink his tea, (which upon inspection, I found very weak) as strong as it could be made; to take it warm, and in as large quantities, as his stomach would bear—using it as his only drink.*

"18th. Early in the morning, Dr. Robson saw him with me, and continued to see him afterwards. We learned that some unauthorized person had taken ten or twelve ounces of blood from his arm the night before; that his cathartic had operated freely during the night; he had taken largely of his tea, and thought himself better; the spasms, however, still severe, but not quite so frequent. We directed him to continue his tea as yesterday.

"19. This morning we found him cheerful; he had passed a tolerably good night; feels much better than yesterday; his spasms moderating considerably, both in violence and frequency. He still con-

* Mrs. Williams, the daughter of Lewis, being informed of Cann's violent attack, sent him word, by his wife, that he must make his tea as strong as ley, and drink it warm, and as much as he could bear.—

Editor Evening Post.

tinued his tea as before. In the afternoon a shower of rain fell, at sight of which, and the rippling of the water in the gutter, his spasm returned in quick succession, and with more violence, than they had done at any other time during the day, and produced him such sensations, that, to use his own expression, he could not bear to look at it, and was obliged to turn away.

"20th. We saw him about noon; he was not so well; his spasms rather more frequent and severe, leaving him with a disagreeable feeling in his head and acute pain in the back of his neck. Upon inquiring whether he still continued his tea, he replied, that at Williams's direction, it was omitted for the purpose of taking a dose of sulphur; on which we immediately ordered his *scullcap* to be resumed, and not again to omit it, unless directed by us; he did so, and again found his spasms to subside.

"21st. He said he felt like a new man; his spasms had nearly left him; still continued the use of his tea as before.

"22. He had no spasms, nor did he complain of any thing but weakness. We directed him to continue in the use of the *scullcap* three or four weeks longer.

"July 13th We saw him; he felt no uneasiness whatever, and has been free from complaint ever since we last visited him.

"To enable the reader to form just conclusions respecting the character of the above case, we will state the result of our inquiries and observations concerning the rabid state of the animal which had inflicted the bite.

"The dog was young and gentle, and had never shown marks of ill temper, until the day before he bit Cann, when he snapped at, and attempted to bite a man, without provocation, who heretofore had been familiar with him. He was confined over night, but broke loose early the next morning, the 10th, when Cann, on his way to work, met him. The dog came trotting along, and, Cann thinks, would have gone on without noticing him, if he had not, when opposite, called him by name, and was in the act of patting his head, when the dog seized him by the hand, made two snaps, and passed on without looking up; a few yards further, he snapped at and quarrelled with three strange dogs; he next bit a neighbour's dog, with whom he was accustomed to play, and, as an apprentice of his master was attempting to tie him with a rope, he snapped at, and tore off a part of his trowsers.

"Behaviour like this, so opposite to his usual mildness, excited serious apprehensions: he was immediately tied in a wood house. While thus confined, he ate sparingly, but lapped water freely; he snapped at his master; was restless, howling violently, gnawing furiously at the door of his prison. By the evening, when we saw him, he had gnawed a large hole through the door, in doing which, he had lacerated his mouth, and broken off several of his teeth against the nails of the batting. At this time, after many attempts, he lapped a little water, and then upset the vessel which contained it; refused food, and snapped at the approach of his master; his eyes were watery and dull, sometimes closed, then suddenly opened, when he snapped at imaginary objects. He now broke his rope, and, as no one dared approach him to replace it, believing him mad, he was shot. Our next inquiry was after the dogs, which had been bitten by this one, but we found they had all been destroyed, except the one last mentioned.

"This dog was secured the same day he was bitten, and put in a cool, airy, and dry cellar; he was regularly fed, and continued well until the 6th July. He then began to show symptoms of canine madness; the under jaw fell; his food dropped from his mouth, when he attempted to eat; he made many efforts to drink, frequently burying his nose in the water, but did not appear to swallow; he was obedient to his master's commands; was dull and moping, but would

occasionally snap at imaginary objects, in the air or on the floor; his eyes were languid and watery, and considerably frothy saliva was discharged from his mouth. In the course of the next day (the 7th) he was much weaker, particularly in the hinder parts, producing slight staggering; his tongue was livid and brown; slimy fluid was observed to run out of his mouth. On the 8th, he would snap at his chain, or any object that touched him; he was thirsty, and lapped water very frequently, without being able to swallow any; his tongue was darker, and his debility increased rapidly; he would not eat, and staggered very much when he attempted to walk.

"9th. The dog appeared much weaker; seldom got up, except by compulsion, and soon fell down again. He appeared blind in his right eye; his back much curved.

"10th. He was made to stand; had spasmodic twitchings of all his muscles; would yet snap at any object that touched him; towards evening he grew worse, and died some time in the night.

"The above statement of facts was drawn up for publication, at the request of several respectable gentlemen, and is submitted without remark.

W. STILLWELL.
BENJAMIN R. ROBSON."

ADDITION.

One word in addition. With several medical gentlemen, I accompanied Dr. Robson to see Mr. Cann after his recovery, and heard him recount in person most of the above particulars; I daily saw the last mentioned dog, from the commencement of rabies, until the day before he died; and I made inquiries of several neighbours who were called in to witness Cann's attack, and heard them confirm the description above given of his appearance. I will now say, that if this case is judged of impartially, I think it presents, not indeed mathematical demonstration, but that degree of evidence, that must satisfy every candid and rational mind, of the efficacy of the plant in question, to prevent or to cure hydrophobia; and when we consider it in connection with upwards of the one hundred cases, that have been treated with similar success, by the late Mr. Lewis, of West Chester, and upwards of the three hundred recorded by the late Dr. Vandever, of Rahway, (N. J.) in the course of a long practice, without a single failure, I think I shall not be thought asking too much, if I claim for it the entire confidence of the public; especially when the faculty of medicine are driven to the humiliating acknowledgement, that they know of no remedy in the case of the bite of a mad dog on which they can place any reliance. Dr. Moseley has indeed recorded several cases of successful treatment by mercury, and we are assured in a publication by the late Dr. Rush, that a cure was effected by copious blood-letting, still it is an undeniable truth, that physicians of eminence have repeatedly tried both methods, and still found their practice unsuccessful. It is a sad truth, that the most skillful of the faculty attend the patient only to witness, in helpless commiseration, the last agonies of the most frightful death; totally and confessedly to prevent or retard its certain approach, or even to mitigate its horror.*

But we may have been presented with objections, and are demanded to answer them before we can lay claim to the public credence. It is asked, for instance how we know the dog that bit the patient was actually mad; and how can we know that if he was, the bite would have proved fatal, if left to itself? As

* Vide the late letter of Drs. Griffith and Sargeant, republished in the Evening Post, of June 3. Their words are, "We know of no cure for hydrophobia; we know of no recoveries; but black hopeless despair stares every one in the face, who becomes the subject of it."

it is an undisputed fact, that the bite of a mad dog does not always take effect, we frankly answer, we do not, we cannot know either, to a certainty. But we say the nature of the case does not admit of certainty, in the strict sense of the word, and we also say, that nothing more can, in fairness, be required of us, than to produce the best evidence the nature of the case admits of; this is all that can be demanded, according to the strictest rules of evidence, laid down by the highest authority. To ask more, and to expect of us that we should not proceed to act upon this species of proof, because it does not amount to the certainty of a mathematical axiom, would be to put a stop to human agency altogether, and reduce mankind to automata, incapable of volition or action. We do contend then, that it is enough for our purpose, that we have offered evidence of the highest probability, and maintain, that it is sufficient to warrant the conclusions we have drawn. May we not, at least, say,

— *Si quid noxisti rectius istis,
Candidus imperti; si non his intus mecum.*

Since writing the foregoing observations, I have had the pleasure to receive a letter from Dr. Thatcher, whom I have not the honour personally to know, but who bears the character of a learned physician, and a liberal and amiable man. In his letter, he inquires with great solicitude, for further information respecting the scullcap. It may be recollected, that I republished not long since, his letter from the Medical Repository, stating that he had used it in the case of a boy bitten by a mad dog, and that it had entirely failed; on which I remarked, that his instance was not stated with sufficient particularity, to enable us to judge of it, in as much as it did not appear in what quantities it was administered, nor whether the plant was of the genuine species; and his letter to me certainly implies his own doubts. In the leading case now before us, if Cann had not been directed to increase the strength of his decoction, and to drink plentifully and constantly of it, without regard to the ordinary prescription, his would have been considered another case of failure, and in all probability, the plant would have been brought into entire discredit with the world. Accident alone has prevented so great a misfortune to the human species.

FROM THE SAME PAPER OF AUGUST 9.

The writer of the following is personally known to the editor, and is a man of the first respectability.

COMMUNICATION.

Joseph E. Crandle, of Kinnerhook, states, that about fifteen years ago, a man by the name of Ketcham, living in Pittstown, was bit by his own dog, early in the morning; that the dog immediately after biting his master, bit several of his hogs and cattle and went off. From his conduct Ketcham suspected immediately that he was mad. There was at this time a family in the neighbourhood, which had resided in West Chester, and had heard of Lewis's remedy for hydrophobia. They advised Ketcham to go down to him without delay. He did so, and Mr. Crandle went with him. They arrived at Lewis's on the eighth day after the wound was inflicted; by which time Ketcham complained, and thought he felt some of the symptoms of hydrophobia. On their arrival at Lewis's, Ketcham immediately commenced taking his medicine, and took a supply of it with him. He continued taking a strong decoction, as prescribed, for forty days, omitting it every other day, when he took a dose of sulphur. That Ketcham staid three or four days at his brother's, in Dutchess county, on his return from Lewis's, that, in the meantime, the hogs and cattle, which had been bitten, had become mad and were killed.

That about eight or nine years ago, five children were bitten in Rensselaer county, two in one family, and three in another, by a dog which proved to be mad. That the parents of the children, having heard that he (Crandle) knew the plant which Lewis used, applied to him for it. He procured it, and gave them directions according to the receipt he had received from Lewis. That the children took it, and never experienced any injury from their wounds. Mr. Crandle did not go to the neighbourhood, but has understood, from the persons who applied to him for the medicine, that this dog proved to be really mad.

Mr. Crandle raised the plant first from seed, which he received from one of Lewis's neighbours; and has since been in the habit of gathering it from fields. He generally finds it in low grounds, and always keeps it in the house.

FROM THE SAME PAPER OF SEPT. 9.

Recent case of hydrophobia, cured by scullcap.—The following history of this case was received by yesterday's mail, in a letter, from the physician who attended the patient, to Dr. Spalding, who is engaged in preparing a publication on this important subject. This case will be, in some particulars, even more satisfactory to medical men, than that of Cann; it better agrees as to the time that usually intervenes between the bite and the appearance of the symptoms of incipient hydrophobia. It will, perhaps, be said, and it is the only thing that can be said by the incredulous and uncandid, that it does not appear in this case, as it did in that of Cann, that the dog in question was actually mad, being killed before the truth was ascertained. I answer that he had the common and well known symptoms of canine madness, and, taken in connexion with the nature of the disease, that was caused by his bite, it affords us a moral certainty of the fact. There will, however, be found some few of the faculty, who will, with the editor of the Medical Repository, affect still to doubt; who, having once adopted a theory of their own, are impenetrable to demonstration; men whose minds are of such a curious texture, that they readily yield to the improbable, and sturdily resist a degree of proof, that convinces all mankind but themselves; men, in short, who may be easily known by their dogged obstinacy in error, and their contempt of common sense.—But it is time to present the reader with the case, as detailed in the following letter.

"Montague, (Mass.) Aug. 22, 1819.

Dear Sir: I send you the particulars of a case that occurred in my practice, leaving it to you to dispose of it in any manner that you may judge proper.

Mrs. H—, belonging to this town, of a healthy constitution, 24 years of age, was bitten, on the 5th of July last, by a puppy four months old, supposed, by herself and her friends, to be mad. The following were the marks he showed of rabies: On Saturday the 3d he refused his accustomed food, appeared stupid and sickly, head and ears hanging down, and shewed no disposition for playfulness. On the 4th still refused to eat, his eyes were red, dull, and full of tears, and his mouth covered with apparently tough and frothy slime: he frequently staggered and fell down; sometimes started up quick, and attempted to run, but could not go straight forward; took little notice of any thing: towards evening snapped at objects, but never barked. On Monday morning he became furious; run at every thing that came in his way, and attempted to bite; at length actually did bite the lady above mentioned, on the ball of the thumb, making four incisions through the skin. He was then immediately killed. On the same day she sent for me, and I advised the immediate use of the scull-cap; but, not having any on hand, I was only able to procure some of another person, which had been gathered two years before, and laid exposed to the open air, in a box; with directions to give it every

other day, as prescribed by Dr. Thatcher. She did so, and the wound healed in a few days, with no unpleasant symptoms. But, on the fifteenth day after the bite, she felt a slight pain or itching in the part bitten, which soon became a little elevated, and a circumscribed inflamed spot, about the size of a sixpence, arose and extended over the cicatrix of one of the marks of the dog's teeth; soon afterwards she felt a fixed pain in the wrist, which extended to her elbow, and shortly increased and reached to her shoulder; wandering pains in her back and joints succeeded; she felt a painful and strange sensation in her head, and sometimes also a giddiness, so that she could not walk straight forward. She now complained of lassitude, with stricture and heaviness in her breast, accompanied with difficulty of breathing. On perceiving these alarming symptoms, I concluded that the plant had lost its virtues by age and exposure, and endeavored to procure some of recent growth, which fortunately I obtained, and in blossom; of this I ordered a strong decoction to be taken immediately, in doses of half a pint each, four times a day, to be suspended every other day, and a table spoonful of flour of sulphur, in new milk, to be taken in its stead. For the greater precaution, I also punctured the bitten part, which discharged a little watery fluid, and applied to it the bruised leaves of the plant, which I renewed once every 4 or 6 hours. On the 16th day symptoms were but little abated, and her pulse somewhat depressed; but she had slept more quietly. The 17th the pain, except in her wrist and head, had subsided, the bite had lost its redness, and she had slept still better. On the 18th she said she felt quite well, excepting a little weakness. She kept the application on the wound two days longer, when it healed, and she left it off; but continued to take the decoction, though with diminished strength, three weeks longer, but has experienced no pain or unpleasant sensation since the 18th day—enjoying her usual good health, and going about her domestic labors as formerly.

The above symptoms were noted down at the time of their appearance. Mrs. H. is by no means of a nervous temperament, but resolute; and she followed my prescription with much confidence.

I am, sir, your's, respectfully,

PETER FISK."

The above case is recommended to the critical notice of every sensible and candid physician in the United States; in which number, however, let it be understood, I do not mean to include the editor of the Medical Repository; to him I shall shortly pay my particular respects more at large, for an article, in his last number, on the above subject. However he may wince, he must remember he has nobody to blame but himself.

FROM THE ENQUIRER, OF SEPT. 14.

To the Editor—Sir,

Public enquiry having been much excited of late by several publications, recommending a species of scull-cap, as a certain remedy for hydrophobia; and as that enquiry has as yet been but illy satisfied, I have thought proper to make known the two following cases, in which the above plant was liberally used. Without farther preamble I shall proceed to relate them.

July the 29th, I was called to see Daniel, the property of Col. F. Poval, aged about 13 years, who, it was stated to me, had been bitten about 20 hours before by a dog supposed to be mad. Upon examination, I found that he had been bitten in about ten different places, on the left side of his body, between the lowest short rib and the spine of the ilium. He stated that, while playing with the dog on the preceding evening, the latter was taken with something like a fit, and bit him in the above described manner, without having shown any symptoms of previous ill nature. Upon examining the dog, I found him lying on the right side, tongue out, breathing with con-

siderable difficulty, his back curved forwards very much; at intervals of five or ten minutes, he would attempt to rise and bite at every thing within his reach; he died during the night. Being informed that two hogs had been bitten by him, I ordered them into immediate confinement. The bites being numerous, and some time having elapsed since their infliction, I applied lunar caustic to them very liberally, and over that laid a dressing of Epispastic unguent.

July 30. Upon visiting Daniel to day, I was requested to see Griffin, aged about 15, the property of Mr. James Brander. Upon questioning him, he gave me the following account: that about 45 hours before, the same dog, alluded to above, came to him, gently bit off or nibbled the scab from a sore, on the first joint of his thumb, licked it for some time, and then left him. As both of the above patients were treated in the same manner, I have united the description of their cases. Wishing, if possible, to make a trial of the Scutellaria, which had been much extolled as a cure for hydrophobia, I endeavored to procure some; but every species gathered in this neighbourhood proved to be either the Scutellaria Integrifolia or Pilosa; orders were immediately sent to New York for a supply of the Scutellaria Lateriflora.

August 1st. This day I removed the eschar, caused by the caustic, from both patients, and scattered emetic tartar freely over the clean surfaces of the sores. I may here observe, that I found this article superior to any other which I have ever tried, as an irritant, in keeping up continued ulceration. The above treatment was daily repeated, until the eighth, when each one took a dose of salts.

August 10th. Having, through the politeness of Mr. Fitzwhylson, of Richmond, received a supply of the Scutellaria Lateriflora, I commenced the use of it, in form of decoction, made in the following manner; to one ounce of the dried plant I put one quart of water, and having boiled it 25 minutes, the boys were ordered to take one gill three times a day.

11. This day the dose, of the above medicine, was increased to one pint and a half during the day; the sores still very much inflamed, from the application of emetic tartar, which had been repeated daily.

15. This day both of the hogs seem to be very much affected: one of them lies on his side, having convulsive twitchings in the fore-leg and jaw, repeated at intervals; the other one is violently affected with general convulsions, which may be increased by fanning her or throwing water upon her.

17. This day both of the hogs died.

23. The decoction increased to one quart a day, to each; the applications of the caustic entirely suspended.

28. The boys still in perfect health; this being the thirty-first day since they were bitten; still taking a quart each day.

Sept. 7. Forty-one days have now elapsed since they came under my care; although I consider them as nearly out of all danger, yet I have advised a continuance of the medicine a few days longer.

Having related the treatment and issue of the above cases, I shall now endeavor to anticipate and satisfy some of the enquiries which, I believe will arise in the mind of every man who may read them. As to the dog's having been mad, I think there cannot be the least shadow of doubt; and, when we take it into consideration that one of the hogs which died mad, was bitten only in the ear, and one of the boys was bitten in ten different places, every one will admit that the canine virus must have had as good, if not a better, opportunity of affecting the latter than the former. When we take it into consideration, also, that every thing which the dog bit but those boys, died with hydrophobia, (although nothing was bitten so badly as one of the latter,) I think we may safely draw the conclusion, that the virus was not only absorbed into their systems, but that they would have been affected with disease had it not been prevented. Which, then, of the remedies enumerated above,

could have counteracted the morbid effects of the poison? Was it the caustic? I think not; for many hours had elapsed between the infliction of the bite and the application of the caustic; and even when it is applied immediately upon the reception of a wound, it is agreed on by most respectable physicians, that it will not succeed in preventing the disease.

Our next enquiry is naturally directed, in the next place, to the Scutellaria: could that have succeeded in preventing the infection? To this question I know the advocates for the virtues of this plant will unhesitatingly answer yes; but it behoves us to possess a sufficient degree of scepticism, to prevent the too ready acceptance of the numerous remedies, which are daily presented to the public by the dupes of prejudice or ignorance. But may not this scepticism be carried too far? As regards the subject at present under consideration, I am persuaded that, it at least merits a further trial than the ephemeral notice, which is generally bestowed on remedies of this kind. In favor of the Scutellaria it may be advanced, that the most simple and seemingly inert vegetable succeeded in curing the most virulent animal poisons. Witness the decided effect of such remedies in the hands of the Indians, in curing the bite of a rattlesnake; the principal of which, I believe, is a species of the Collinsonia. It will, I hope, be plainly inferred from what I have advanced, that it is not my object to assert an entire belief in the Scutellaria, as a specific; but to excite a further enquiry, and remove that apathy which is too often, perhaps, the cause of failure in remedies which might otherwise prove useful. One word with respect to the plant. One species only is said to be useful—the Scutellaria Lateriflora. As there are three species growing in this neighbourhood, this may be easily confounded with the others. The only specimen of this particular species, which I have seen gathered in this state, came from Powhatan; the species mistaken for it in this neighborhood, is, I believe, the Scutellaria Integrifolia and Pilosa.

To conclude, let it not be supposed, that I would advise a neglect of the only certain preventative of this dreadful complaint, viz: the immediate extirpation of the bitten part with a knife. The virtues of the Scutellaria can be tested safely only in such cases, where this important preventative has been neglected, or, from peculiar circumstances, could not be applied. Until this has been fairly established, the use of the knife must retain its acknowledged superiority over every other remedy, from the compound farrago of almanac receipts to the simple calcareous stone, pampered upon us by the superior cunning of the East Indian jugglers.

WM. G. NICE,

Manchester.

P. S. I have a supply of the genuine plant, which will be forwarded to any physician, who may have a suitable opportunity of testing its virtues.

Remarks.—If this candid and respectable physician can mention any one individual case of cure, by excision of the bitten part, and by caustic, I will thank him to do so. Dr. Nice certainly does admit that the dog was mad, that there is the highest probability, that the boys would have been affected with the hydrophobia, had it not been prevented, and that "it is agreed by the most respectable physicians, that caustic will not succeed in preventing it." The inference, then, although not drawn by him in words, I must consider irresistible.

A word here on the vaunted "regular practice," or as it is called by the Editors of the Medical Repository, the "Legitimate Practice."

Doctor Thatcher, in his "Observations on Hydrophobia," the latest work on the subject that has appeared, says, "It is indeed a melancholy truth, that this monstrous hydra, this destroyer of mankind, has not yet been vanquished; and its ravages are equally a reproach to medicine and a scourge to our race. Alas! hydrophobia, like 'the pestilence that walketh in darkness,' still displays its superiority, in defiance

of all efforts of human skill." And he concludes his introductory chapter thus:

"The specific nature and constitution of the subtle and refined poison of rabid animals, has hitherto eluded the most critical researches. It is equally inaccessible out of our sight and out of our knowledge. We are permitted to know it only by its calamitous effects, and in these we recognize its pre-eminent power and unrivalled malignity. An investigation of its abstruse properties, and a solution of the intricate phenomena, which marks its operation, constitute a theme for the exercise of talents and ingenuity. That the history and pathology of this singular disease have never been clearly understood and illustrated, is apparent from the various and contradictory opinions of systematic writers, and want of uniformity among physicians.

"Several causes have conspired to perpetuate ignorance and error, relative to this intrinsic subject. One of which is a culpable disposition in authors and others to adopt and copy the doctrines and even the oral traditions from one another, without due examination; as if to add darkness to their own unintelligible mysteries. But the alarming prevalence of this evil has created a new and lively interest, stimulating to a laudable emulation in the investigation of its nature and treatment. Many important facts abstracted from vague speculation, are yet in reserve, to be unfolded by the joint efforts of the experimentalist and philosophical physicians.

"It not is a task that devolves on a single individual, but demands the combined exertions of all.

"Great indeed is the labour; rich and honourable will be the harvest of reward. The field of experiment is yet exhaustless; let us unite our endeavours, and resolve to give it another and more assiduous gleanings: nor cease to explore its recesses, until the hidden treasure shall be discovered; and he whose hand shall pluck this laurel, will have achieved an object of universal interest, and rival a Jenner in celebrity."

With what pleasure do I learn, that the Scutellaria has attracted the notice of some of the most respectable physicians throughout the United States; Some of them have sent to New York for the plant, with a view to administer it, and I hope they will consider it due to the cause of truth and humanity, to make known the result, either by letter to myself, or by means of the publick prints. If it possesses not the virtue I ascribe to it, let the failure be immediately made known; if, on the contrary, every trial continues to be attended with success, as has hitherto been the case in this quarter, can the knowledge of such a blessing be too extensively circulated?

I certainly do entertain the hope and belief, that the wishes of the learned and benevolent Doctor Thatcher are at length accomplished in the discovery of this antidote. We trace this plant with certainty no farther than to Dr Lawrence Vandever, of New Jersey, but a respectable aged lady of New York, says she remembers to have heard its virtues spoken of many years since, by a lady of distinction in Virginia. The name and the residence of the real discoverer has probably been lost. I do not assert it may not fail, after all; but it would be very extraordinary if it did as it is a fact that will be stated in Dr Spalding's compilation, which is to appear in a few days, that more than one thousand cases have been attended with complete success. Can you say as much, Messrs. Editors of the Medical Repository, or a fiftieth part as much, in favour of any "legitimate practice," ever yet known to the faculty? *Magna est veritas et prevalebit.*

[E. Post.

Internal Improvement.

FROM THE NEW YORK COLUMBIAN.

Selections from manuscripts transmitted to the New York Corresponding Association for the

promotion of Internal Improvement, communicated for the Columbian by the committee of publication.

The history of the disease called the *Rot* in the growing Cotton-plant of Georgia, Louisiana, Mississippi, and Alabama; and the expedient of avoiding that great calamity, by a change of seed, procured from the southern hemisphere—in a letter from the hon. George M. Troup, late senator in the congress of the U. S. to Samuel L. Mitchill, dated Dublin, Laurens county, Georgia, Aug. 18, 1819.

Read before the New-York Corresponding Association, for promoting internal improvement, &c.

Dear Sir—Your labors are so various and incessant, I am almost ashamed to avail myself of the privilege of an old acquaintance, to ask a favor of you.

Some of your merchants trade to the Brazils and through the politeness of one of them you may be able to procure for me two or three casks of the cotton seed of that country, selected from a good crop and delivered here before spring. The expenses will be defrayed by drawing on Messrs. Campbell and Cumming of Savannah, at sight.

You know the rapid strides with which, by the demand for their great staple since the late war, the southern states have been advancing to opulence—and you will conjecture that the luxury and extravagance which commonly attend them almost every where, have not failed to accompany them here. It was in the full career of accumulation and amassment on the one hand, and of speculation and wasteful expenditure on the other, that the storm which now agitates the commercial world, overtook us—cotton fell at once—has continued to fall, and there is no calculating at what point of depreciation it will stop. A sudden depression, therefore, of something like 50 per cent. below its highest price, of the produce on which we placed our chief dependence for raising money, would of itself, have made us participators of the prevailing distress—but the evil to which the cotton plant has been exposed in Georgia for three years, in Louisiana and Mississippi far more, by diminishing its product on particular farms 1-3 1-2 2-3ds, and in some instances I believe 3-4ths greatly aggravates our share of it, and may be said to make it peculiar.* This evil (very appropriately called the *Rot*) made its appearance in Georgia for the first time, I think, in the year 1817, was much more destructive last year, and this year; in many situations, threatens the destruction of the entire crop. Its advances seem to be eastwardly, as we first heard of it in Louisiana, and

* From the combined operation of these two causes, it is not improbable that the exports of Georgia, which in 1817 and 1818, amounted to something like eleven millions of dollars, may this year fall short of three. The crop of last year fell short of the preceding by about 20,000 bales in the 100,000, or 1-5th, notwithstanding the cultivation has been considerably extended. Heretofore, the high price has compensated the deficiency. This year, depreciation and deficiency work together.

afterwards in Alabama. It has not yet done mischief to the sea-board planter, but if the variety of the plant which he cultivates, does not exempt him he has good reason to dread its approach. It has given rise, as you may imagine, to much of theory and speculation here—some referring its origin to a winged insect perforating the exterior coat of the bowl—others to a disease of the plant itself; both sides have their reasons and authorities—among the latter, the one most frequently resorted to on the one side is that of our old friend the late governor Milledge, who seems to have satisfied himself the disease proceeded from the fly. The observations which led to this conclusion I have never heard. The general fact is, however, of some importance, as he was a man of close investigation, had studied the history of the plant and had watched its progress in this country from its first introduction to the time of his decease. Nothing subtracts so much from the weight of his authority as the circumstance of his observations having been confined to a very short period, and within a limited sphere, the rot then making its appearance for the first time, and exhibiting itself put partially. The more general opinion since, seems to be that the disease is of the plant itself, and probably having its origin in the seed. It may be satisfactory to you to have an account of its first appearance, its progress and termination—I give it to you the more cheerfully as it is by no means impossible, we may be indebted for useful discoveries in relation to it, to the science and illumination of New York.

The first indication is seen in a small circular spot on the outside of the bowl, exhibiting a darker green than the circumjacent parts, as if a globule of water had dropped upon it and been absorbed. Many of these are frequently seen at the same time on the same bowl. They spread themselves sometimes faster, sometimes slower, as if influenced either by the state of the atmosphere, or condition of the plant; changing color as they progress, until they assume a dark brown approaching to black, and until the whole exterior is affected in like manner, or until it receives from some cause a sudden check, and then this appearance is only partial. In the first case, the disease has penetrated to the centre of the fruit, the fermentation is complete and universal, and is seen in a frothy white liquid, thrown out on the surface—Putrefaction follows, and the destruction of the seed and immature wool being finished, nothing is left but the rind or exterior coating of the bowl, which exhausted of its juices, hardens and turns black, and thus terminates the process. In the other case, (that of suddenly checked disease) the interior of the bowl, in some instances, remains unhurt—in others, is only partially injured, and in this last case, the pods remaining unhurt, may mature and expand. This, however, rarely happens, as the disease is wonderfully capricious, going and coming unaccountably—attacking at one time with more, at another with less violence; so that the fruit which escapes entire destruction on the first attack, may fall victim to the second—Nor is this capriciousness justly attribu-

table to changes in the atmosphere; its origin even does not seem to have any connexion with weather. The year 1817, when rot first appeared, was one of remarkable wet. The year 1818, one of remarkable drought. The rot in 1818, was both more general and more destructive than that of 1817. In 1819 which has been as the planters say, a seasonable year, there is more rot discoverable than at the same time of any preceding year, and there is every probability that it will be both more general and more destructive. In the same season too, according to my observation, it is in no degree influenced by it—for instance, this year it showed itself in my neighbourhood in the most alarming manner for the first time, when the corn and cotton had begun to suffer from a dry spell of two or three weeks. I have known it to stop for a considerable time in very wet weather, and to recommence its progress after the rains had ceased. It is earlier in its appearance this year than before, and I believe earlier the last year than the preceding. This disease attacking at different times with different degrees of violence, I will not hazard the assertion, that its cause is uniformly distinguished by the same appearances. The first indication in very many cases is, a dark brown or black spot on the bowl—in others, the whole exterior of the bowl seems to have passed at the same time from the green to the dark brown, and is saturated with moisture and whilst it is evidently suffering the process of fermentation, will open and deliver the wool uninjured. It is the same disease, exhibiting different features as it rages with greater or less degree of acrimony—it attacks the bowl in every stage from the first formation to that stage of its perfection which immediately precedes development.

I think I have shown you, by this summary of facts, that neither its origin or progress is referable to *weather*. You will be satisfied that *soil* has no connexion with either. It has visited all varieties of soil and treated all alike. I do not mean that every plantation, or that every district of country, shared, in equal degree, the evils of this visitation. Some have escaped with more or less injury; but I am inclined to think that these who have escaped with least, will have their turn. The *mode of cultivation* makes no difference. There are two modes, the *close* and the *thick-set*. The last has become fashionable of late; but I have seen the isolated plant and the one environed by the branches and overshadowed by the top of its neighbours, equally afflicted. This inveterate destroyer of one kind of the vegetable kingdom, unlike the ancient destroyer of one species of the animal, spares not the humble nor the proud—the dwarf and the giant are equally his prey—the plant which has energy enough to blossom and develop one fruit, or the more sturdy stalk loaded with his hundred bowls.

I think you will conclude from the foregoing statement that *rain or sunshine—hill or dale—soil*, whatever the *predominant earth—cultivation* whatever the mode, stop not his march. We recur, therefore, to the existing controversy.

Is insect or constitutional disorder of the plant, the cause of rot? If insect, would they not be seen in great numbers and where their ravages are greatest? I have examined fields most injured by rot, and could never make any discovery of them—besides, the year of drought is the year of insect—the rot made its appearance in a year of wet—since that, it seems not to have been affected by either wet or drought.

What think you of the following theory? Vegetable, like the animal creation, is subject to its periods, regular or irregular, of sickness and decay—no vegetable has been exempt—with many as with fruit trees, disease attacks suddenly and violently in some instances—in others imperceptibly and gradually—in both, the doctor has sometimes effected a cure—in others, in despite of all prescription, the disease has terminated in decay and death. In our cultivation of our garden vegetables we can avoid deterioration only by changing seed. Those which contribute chiefly to the sustenance of man, and which occupy the labours of the husbandman require periodical change or crossing to save them from sickness and degeneracy. In England when the blast has fastened upon the corn crop generally, the only cases of exemption have been those in which by accident, experience, or experiment, the change or crossing had adopted.*

May it not be well, therefore, in this dark and doubtful stage of the controversy, to make trial of change of seed? not of the same variety drawn from a distance, which might of itself be useful; but of different variety which either alone or in commixture with other seed would extirpate an evil, as yet a growing one, which exhausts our resources faster than war, and which if it progresses for a few years to come in the same ratio as the past, will leave us little more than the necessary food and raiment and shelter.

The Indies and South America, pushed us out of the indigo market, and we never think to reestablish ourselves there; the cultivation of sugar is too precarious as a general one for the cotton country. We cannot substitute our staple therefore, and the only alternative left us is to preserve it. We can do so in defiance of India, provided, we can crush this vegetable monster, who is working to our ruin with more heads than the Hydra, and with more arms than Briareus.

I trouble you with this commission the less reluctantly, because no state in the union is more interested (excepting only the cotton raising states themselves) than that of which you are a distinguished citizen. There is scarcely an art, trade, or profession, practised in your great metropolis which is not directly or indirectly concerned in the prosperity of the cotton trade. Your merchants could not employ themselves better than in efforts to restore it—their patriotism will prompt them—they will not suffer to come to nothing, so far as depends upon them a great staple of the country nearly equal in value in its best years to one half of the whole amount of our domestic produce exported, employing in

* The indigo plant requires annual change of field but change of field does not prevent rot in cotton.

its annual transportation 60,000 tons of shipping and 4000 seamen, and if they find freights low at Rio Janeiro, they may turn a profit in bringing a few thousand bushels of choice seed to Savannah and Charleston. Should the jealousy of the Portuguese government (not to be expected) interpose difficulties, our minister there, who is known to both of us, will take pleasure in removing them.

The experiment will be decisive. If the evil originate with fly, the insect will pierce, without distinction, the Georgia and Brazilian plant. If in any other cause, the chances are more than equal that, the stranger will escape.

I am, dear sir, with great respect and esteem.

G. M. TROUP.

Note—Nothing so firmly sustains the inference of governor Milledge, as the fact that the rot appears to proceed from extraneous cause, beginning on the outside of the bowl and penetrating inwardly—but why should the insect intermit its destructive labours? Is it because the fly is short lived, and that the interval connecting two generations is filled by the chrysalis? Is it to extract the juice as nourishment? I think not—there is too much of wasteful destruction to consist with the order of nature, it renders useless to itself and to every thing else 10,000 times the quantity it imbibes. Besides, the rind which near maturity is too thick, and its texture too close to be penetrated by any than a fly of large body, armed with a strong and sharp proboscis, and such a fly could not pass unnoticed by the most superficial observer; the puncture of the rind, by a pin or needle, produces no rot—we are to presume, therefore, that a most acrid and subtle poison is ejected from the proboscis—if so, the effects ought to be uniform and we know them not to be so. I have endeavoured to be correct in my statement of the progress of this evil, and to assure myself that I had been guilty of no material error or omitted any important fact. I have read it to my brother, Mr. Robert Troup, who is an experienced planter, and who had paid much attention to the subject—he says his observations correspond with mine. I do not believe that in the West Indies the cotton plant has ever been attacked by the rot.

P. S. If the seed could be procured from any of the districts south of Rio, as in latitude 30 or 32, so much the better—though not very important.

G. M. T.

September 22, 1819.

Dear Sir—In my first, which was hastily penned, I fear I might not have been sufficiently explicit on that part of the subject, which relates to the climate, or region, from which the seed may be drawn. I am convinced, that the Pernambuco seed will not answer—probably even that of San Salvador would not. It would require long time and great care to naturalize either. I know not how far south the cotton cultivation has been carried in that country, but the general idea was, to procure seed, if possible, from a latitude approximating to our own. It was supposed that 20 or 23 might answer, and therefore Janeiro was named as the most convenient port. Excuse the trouble I give you, and believe me, very respectfully and sincerely,

G. M. TROUP.

POST BORING MACHINE.

We have been lately much gratified in viewing a newly invented machine by Mr. James Corbett, of Hamover township, in this county for boring posts for fences. We are decidedly of opinion that a more useful invention could scarcely be introduced to the public; for it is well known to all farmers, that good

fences are among the first and most important considerations in their improvements; for as they are the best promoters of peace, and good will among neighbours who keep unruly cattle, so they are equally the best preservatives of the crops, which have been forwarded and matured by the sweat and toil of the anxious husbandman. When the farmer knows that this saving labour machine, a man and a boy, with the assistance of a horse, can completely bore 500 posts in a day; or one, two or three, in less than half a minute, no matter how hard, or crooked the wood may be, surely he will be anxious to become the possessor of so valuable an article, especially when it can be procured for about 20 dollars. The whole construction in itself is very simple, and causes us much to wonder, that it has never before been thought of. Mr. Corbett has applied for a patent, and we heartily wish him that success and remuneration, which such useful ingenuity merits, and to further this view, we hope our professional brethren will notice this paragraph in such a way, as their inclination, and friendship for useful improvements may prompt them.

[Oracle of Dauphin.]

We rejoice to hear of any invention, that give a hope of seeing the present expensive and laborious system of dead wood worm fences superceded; they look ugly, occupy much ground, catch a great deal of water, of course rot speedily, and require to be frequently righted up, and altogether renewed.—Ed.

Occasional Extract.

New York, October 5, 1819.

J. S. SKINNER, ESQ.

Dear Sir,—As the progress of the great Western Canal must be interesting to you, and to the enlightened patrons of your excellent public journal, I have the pleasure to inform you, that this vast work advances with a rapidity that astonishes its warmest advocates. The following facts have just been communicated to me, by a distinguished gentleman who belongs to the board of Canal Commissioners.

The Canal from the aqueduct across Wood creek, all through the swamp south of Rome, and for seven miles east of said aqueduct, is now complete, and has water in it fit for transportation. It is very certain that in three or four weeks, water will be let into the canal from Utica to Oneida Creek. There are boats building at several points of the Canal line, some of which will be soon plying in it. And although the operations have been much interrupted by sickness, from Salina westward, there is full confidence that this season will not pass away, until the whole middle section of the greatest canal in the world is finished and filled with vehicles of conveyance. The completion of this section, will give us nearly four hundred miles of water transportation into the interior of our state, when we view its connexion with the Mohawk and Hudson.

The surveys will be ready to enable the commissioners to determine on the route of the western section, by the middle of this month, when a meeting will be held for that and other important purposes.

The northern Canal, connecting Lake Champlain with the Hudson, is progressing under favourable auspices. Gov. Clinton, the president of the Board of Canal Commissioners, has passed the whole length of the line of the western canal this season, and is now about visiting our northern works. It is confidently expected, that the northern canal will be completed in the month of November next, although some accidents have produced unexpected delay.

Our Agricultural societies are producing great and vigorous efforts in the interior, and under the protecting aid of our Board of Agriculture, will present a new era in the most vital branch of human industry. We will be great, independent, and happy, in proportion as we cultivate the soil, and rely on the avails of

productive labour. We advance to national power grandeur, while the light of ages brightens up our paths, and the philosophy of civil history, illumines, and counsels. Agriculture and manufactures are the two great sources of wealth, on which the American people must ultimately depend.

With great respect and esteem,
CHAS. G. HAINES.

THE FARMER.

BALTIMORE, FRIDAY, OCTOBER 22, 1819.

The proceedings of the Agricultural Society of St. Mary's County, communicated by order of said Society, for publication in the American Farmer, have been received, and will probably appear in our next number. Also a communication from a highly esteemed correspondent, on the construction of carriage wheels.

It was not until after the paper was made up, that the Editor knew that it did not contain the next number on "DOMESTICK INDUSTRY" We did not wish the series to be interrupted.

Present Prices of Country Produce in this Market.

FLOUR, from the wagons, \$5 50 to 62.—Whiskey, 38 to 40 cents per gallon.—Red Wheat, \$1 12.—White Wheat, free from garlic, \$1 15 to 1 20.—Corn, 62 cents.—Rye, 60 to 62 cents.—Oats, 45 to 50 cents.—Irish Potatoes, by the quantity, 60 cents.—Sweet Potatoes, 65 cents.—Turnips, by the cart load at market, 30 to 37½ cents per bushel.—Geese, 75 cents to \$1.—other fowls, and butchers' meat, as per last report.—Hay, \$18.—Straw, \$12.

Extract of a letter to a Commercial House in this town, dated, Bremen, Aug. 19.

Maryland Tobacco keeps up steadily. Virginia and Kentucky may be considered somewhat higher. A mixed parcel of the latter averaged in auction yesterday 7 7-8 grs. which is ½ gr. better than last week.—Stems are more saleable.

Comparative statement of the imports and sales of American tobacco at Bremen, in the first quarters of the years 1818 and 1819, in hogsheads.

	1818.	Vir. & Kn.	Md.	Total.
Stock from 1817,	615		1195	1810
Imports to Aug. 1,	2735		1090	3625
Total,	3150		2285	5435
Sales to August,	1640		1920	3560
On hand August 1,	1510		365	1875
1819				
Stock from 1818,	1550		1215	2765
Imports to Aug. 1,	3245		1130	4375
Total,	4795		2310	7145
Sales to Aug. 1,	2860		1670	4500
On hand Aug.	1935		675	2610
On hand Aug. 19,	2015		465	2480
Of stems, 1200 hlds.				

Prices Current at Bremen, Aug. 19.—Cotton, Gen. Upland, 26 a 32—Surat, 13 a 20—Rice, Car. per 100 lbs. 7 a 7½kd.—Tobacco, Maryland, fine yellow per lb. 27 a 33 gr.—Ordinary, 13 a 14.—Vir. Ken. and Geo. fine rich sweetz, 19 a 21—fat and heavy, 13 a 18—Middling, 9 a 12—Ordinary 7½ a 8½—Inferior, 6 a 7.

ADVERTISEMENTS, which are in the nature and objects suited to a paper of this sort, such as, the sales of land, seed, live stock, implements of husbandry, new inventions, &c. &c. will be inserted *once only*, at the rate of \$1 per square, to be paid in ad-

vance. The very extensive circulation of this paper among landed men throughout the United States, makes it an eligible medium for giving such public notices, and one publication is as good as forty, unless in cases where the law prescribes a greater number of times.

From the New Hampshire Patriot.

Messrs. Hill & Moore,

The old song of "Hard Times" is sung with increased fervour at this time, when the earth yields an uncommon supply both for man and beast. Could not the tune of "Hard Times" be easily altered to the more endearing sound of "Hard Cash," if the following protest were strictly adhered to by all those, who are in the habit of tipping the glass twice too often? In my opinion, those who are now idling away their time in the streets and grog shops, singing the song of "Hard Times," would be much more respected, if they would content themselves at home, with their wives and children, chanting the tune of "Hard Cash" one equally as well beloved by all. Then would the farmer and mechanic, with Temperance, Industry, Frugality and Economy, by his side, thrive as did our forefathers, when one gallon of rum would last them through the haying.

PROTEST.

"I protest no more I'll get drunk—

'Tis the curse and the plague of my life;
It ruins my credit, my health, and my purse,
My peace and my comfort—and what is still worse,
It vexes and angers my wife!

"I protest that no more I'll get drunk—

It torments and embitters my life;
To ruin 'twould hurry its vot'ry headlong;
And reason declares that I'm quite in the wrong,
And so do the tears of my wife.

"I protest that no more I'll get drunk—

Nor lead such a wretched, vile life;
Its attendants are poverty, shame, and disgrace—
Disease and despair, stare me hard in the face,
And so does my heart broken wife.

"I protest that no more I'll get drunk—

'Tis the worst of all evils in life;
'Tis the curse of all curses, of mischief the worst;
'Tis the plague of all plagues, 'tis a demon accurst;
No wonder loud chides my poor wife.

"I protest that no more I'll get drunk,

For I find it the bane of my life;
Henceforth I'll be watchful that nought shall destroy
That comfort and peace that I ought to enjoy
In my children, my home, and my wife."

Now the difference is, one gallon of rum would last through haying in former days; but now one gallon is thought little enough per day for four hands. Alas! how great the difference—how "Hard the Times!" The mechanic likewise cries, "Hard Times;" but let him remember that when his father carried on business, his hands were allowed but little ardent spirits; he found "Hard Cash"—his work better done, and more per day. But view the contrast! One pint of rum per day for each hand; and the master of the business cries out every day "Hard Times;" and well he may. We read of Bible, Missionary, and Cent Societies; but hear very little said about the formation of a Temperate Society. Let the young men therefore form themselves into a Society for the purpose of suppressing intemperance: let their motto be—

"I protest that no more I'll get drunk,
Nor lead such a wretched, vile life."

And in the course of one year with prudence and frugality, they will be enabled to sing the song to the tune of "Hard Cash," instead of "Hard Times."

A MECHANIC.

Pembroke Village. September 1819.

UNEXAMPLED PRODUCT.

It is asserted, that on the Farm of Samuel Cope, in Eastbradford, Chester County, Pennsylvania, there was found this season, a root of wheat, which produced 102 stalks, and all well headed. One of the heads (the only one counted) contained 62 grains. If the other heads were as well filled, the product must have been upwards of 9000 grains of wheat from a single root.

TO FINE OR CLARIFY BEER IN TWENTY FOUR HOURS.

Put in a piece of soft chalk, burnt, about the bigness of two hen's eggs, which will disturb the liquor and cause it afterwards to be fine, and draw off brisk to the last, though it be flat before.

PETER PUFF, AUCTIONEER.

Dyer, and Man Milliner—mends Clocks, and makes Wigs; tunes Piano-Fortes, and Cuts Corns; Man-midwife and Horse-shoer; Blows-maker, and teacher of Psalmody; has a Diploma from Gretna-Green, and another from the University of Aberdeen; attends at all times, to unite the votaries of Hymen and inculcate children, or bleed horses; rings pigs' noses, and the parish bells.

N. B. Second-hand Coffins made and repaired.

PETER PUFF HAS FOR SALE,

As Follows:—

For some Popular Orators	Halters.
Hen-pecked Husbands	Patience.
Old Maids	Husbands of all sorts
Dandies	Wives old & ugly, with money.
Married Persons	Divorces.

A Good Wife, with a Halter; warranted in every respect
A Seat in St. George's Church, Cheap; a long time on hands.

WANTED IMMEDIATELY,

A Private Box at the Theatre—a High Price will be given.

[Irish Paper.

DUNSTABLE vs. LEGHORN.

Ye fair ones! don't at Fashion's law,
For Leghorn bonnets quit the straw!
Should native worth, in times so hard,
Of its due wages be debar'd?
Then let the Straw, the preference give,
And let your Country People live.—*Lon. Pap.*

The Editor of the American Farmer solicits information as to the date of the establishment of all the Agricultural societies in the Union, their articles of constitution, proceedings, &c. &c. for publication in this paper.

PRINTED EVERY FRIDAY, AT \$4 PER ANNUM

FOR JOHN S. SKINNER, EDITOR.

At the corner of Market and Belvidere streets,

BALTIMORE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norant
Agricolos." . . . VITRO.

VOL. 1.

BALTIMORE, FRIDAY, October 29, 1819.

NUM. 31.

AGRICULTURAL.

[Communicated for publication in the American Farmer.]

St. Mary's Agricultural Society.

At a stated meeting of the Society at Leonard Town, on Wednesday, the 6th of October, 1819.

Ordered, That the Secretary transmit for publication in the "American Farmer," a copy of the Constitution of the Society—with the form of a Report of the condition of the Farm, or Tract of Land, &c, to be made by each member annually—together with the Essay of Col. Fenwick this day presented to the Society.

Teste,

E. J. MILLARD, Sec'ry.

Leonard Town, Md. Oct. 13, 1819.

Sir.—In compliance with a resolution of the Agricultural Society of this county, I transmit you the enclosed papers for publication.

very respectfully,

E. J. MILLARD.

CONSTITUTION.

Art. 1. The Society shall be styled "The St. Mary's County Agricultural Society."

Art. 2. The Society shall consist of every individual friendly to its objects, provided he shall first have been nominated and elected by the ballots of two thirds of the members present.

Art. 3. The Society shall have a president, a secretary, an assistant secretary, a treasurer, a standing committee of seven, all of whom shall be elected by a majority of the members present at the last annual/stated meeting of the society. And in case of vacancy by death, resignation, or removal out of the county, the same shall be supplied by an election to be made at any stated meeting of the society, the person or persons then newly elected, to serve the remainder of the year.

Art. 4. A quorum for business shall consist of at least seven members.

Art. 5. At all meetings of the society, the president, or in his absence, such person as the society shall elect protem, shall exercise the usual duties of that office. All motions shall be addressed to him, and on all questions he shall collect and declare the votes. He shall have power to call special meetings of the society, by notice through the secretary at as many public places in the county, as he shall direct. He shall, with the standing committee, have power to correspond with other societies or individuals on agricultural subjects; and with the standing committee he shall attend to and regulate the pecuniary affairs of the society, order expenditures to be made when necessary by their order on the treasurer, whose duty it shall be to make a regular report thereof at the next regular meeting of the society hereafter, which report shall be subject to the ratification or rejection of the said society.

Art. 6. The secretary and by his direction, the assistant secretary, shall have in charge all the books and papers of the society, and keep the same in exact order; they shall also keep on regular files, all letters which shall be written by the president,

or standing committee, or by themselves, by order of the committee, and at the stated regular meetings of the society, submit the same for the further order of the society.

Art. 7. The treasurer shall keep the accounts stated on the books of the society, and when called on, produce the same for inspection. But at the last regular meeting of every year, and also whenever his office may end, he shall produce a fair and regularly stated account of all receipts, payments, and expenditures, and deliver it, together with the books and all other property of the society in his hands, or which of right ought to be, to his successor in office, or to the order of the society.

Art. 8. Every member subscribing these articles shall contribute one dollar, or more, annually, for a fund to be applied to the purposes of the society.

Art. 9. The society shall have four regular yearly meetings, and at the following periods: on the second Tuesday in January, on the first Wednesday in March court, on the first Wednesday in August court, and on the return day of the election.

Art. 10. It shall be the duty of every member of this society, to keep an account of, and at one of the regular meetings of the society, make a report of his agricultural proceedings, agreeably to such form as may be adopted by a majority of the society, which form of report when adopted, shall become a part of this constitution.

Art. 11. The society shall have power to make such rules and by laws for their government, and the management of their affairs, as they shall think proper; and to add to, alter or amend the present constitution; provided however, that no addition, alteration, or amendment to this constitution shall be adopted, without the concurrence of two-thirds of the members present, at one of the four regular meetings of this society.

THE ESSAY OF COL. ATHNS. FENWICK.

On the Advantages of using Cutting Boxes or Cutting Benches.

It is well known that among the greatest defects in southern farming, is the scarcity of provender, and in no other section of country in the state in which we live, is the want of provender more observable, in the general and common condition of cattle, horses and sheep, than in the lower counties, particularly in the winter and spring. Strange as it may appear, this deficiency arises not from any fault in the climate or from the want of fertile valleys, capable of being watered by streams, or by reason of the unfitness of our soil for clover, timothy, sainfoin, lucern, orchard grass, meadow grass and every other kind, common in temperate latitudes; nay, instead of proceeding from difficulties and obstacles presented by nature in less favoured regions, our scarcity of provender arises solely from the too great facilities afforded us by mild winters, wide woodland ranges, fertile uncultivated bottoms, which meander into the heart of this country, branching in all directions from the hundred creeks and rivulets, which fall into the Potomac and Pautuxent rivers and into the Chesapeake Bay, and from the abundance, also, and extent of the salt marshes, in many directions fringing the outline of the main land of our peninsula. To these great natural facilities, for preserving our stock of every kind, must be added the excellence and superiority of our principal crops of Indian corn, for yielding grain and provender, above all other crops. These blessings of Prov-

idence, affording in such profusion, in former years a sustenance for our domestic animals throughout the year, together with the habits they have generated, and not any unkindness in our climate or soil, are the real cause of the miserable scanty pittance now provided for our stock of all kinds. Before our uplands, commonly called forest lands, had been exhausted, when the common average crop was ten and twelve bushels of wheat to the acre, and four and five barrels of corn, with very indifferent cultivation, on these lands, when the whole amount of live stock was smaller than it now is, which time is within the memory of some of our inhabitants yet alive, as I have repeatedly learned from the most credible sources, there was some excuse, nay, some reason in our forefathers not paying more attention to making a large winter provision of provender, than the corn crop afforded. But now that the unenclosed and unimproved lands also have become parched and arid heaths, and the sun, wind, rain and frost, acting on their naked surface, not to mention the overgreedy and self-destructing system of extortion, and rack-rent practice on every spot of ground, that had any strength, for near two centuries, have reduced ninety acres in the hundred throughout the county, to poverty, incapable of remunerating the labours of the plough alone; we must of necessity exert ourselves, or suffer our stock to perish. Thank all bountiful heaven, the means of renovating our soil, and remedying the deficiencies in our forage and crops are every where around us, and now that we begin to feel as sensibly as we have long seen our folly, we have reason to hope that the means of amending our agricultural condition, will not be neglected.

But before we can avail ourselves of the sources of manure we possess in such abundance, before we can plough deep before we can practice any of the improvements recommended by the many distinguished farmers here and abroad, and, above all of them in the past or present times, before we can adopt the system of ARATOR, the most valuable book for us that ever was written, we must provide out of the amount of forage on hand enough to feed well our team of horses and oxen; as without carts, we cannot manure land, and without ploughs, we cannot cultivate it. Our business in the first place, then, leads us to reflect on the best means in our power of increasing our forage, without at present taking into view, how we can better employ our team another year, after we have secured our present crops on hand, in preparing for the mixed course crops.

I will now content myself with showing how the present crop of provender may be managed, to afford a much greater quantity of nourishment for horses, and cattle, and sheep, than an equal amount would afford, used in the wasteful manner, we have heretofore been accustomed to give it out to them. To effect this is so easy and cheap, that every farmer of any condition has it in his power. Experience has proved that corn tops and shucks, wheat, rye, and oat straw, corn blades and hay, cut up with a cutting box or cutting bench, and given to horses, or cattle, or sheep, in troughs, will go a great deal farther, than when they are thrown in racks or on the ground, long and uncut, as gathered, and eaten in that way. The saving, by these means, is so great, that it is worthy of the attention of even such among us, who have the greatest abundance of provender, and to those, who in the usual way of feeding, would not have enough, it would be unpardonable negligence not to adopt the use of them. Mr.

Jacob Gibson, of Sharp's Island, was the first man, whom I remember to have recommended cutting corn tops, to the people of Maryland. It was in a year of great scarcity, and for my own part, I remember I did not make a third of my common crop of provender; but in consequence of adopting Mr. Gibson's recommendation, I actually managed to carry my stock through the winter, with only a third of a crop, as well as I had commonly done before with a whole crop without cutting. But I extended his recommendation, and cut up corn shucks, and straw and blades, and every kind of provender I used.

In the fourth volume of the Memoirs of the Pennsylvania Agricultural Society, the experiment of Mr. Isaac C. Jones is given in feeding four horses with cut hay, and his saving was found from his calculation, to be thirteen hundred pounds per month, which for one horse would have been a saving of three hundred and twenty-five pounds per month, and in each day's feed of one horse, a saving of more than ten pounds of hay. In order to form some idea of the importance of such a saving to this county, I will from these data make an estimate as nearly exact, as my means will enable me, of the value of this saving to our population, of giving the amount and value of the hay or fodder saved in pounds weight and money. From the census, we know the population of this county was a few hundred over twelve thousand inhabitants; allowing therefore one-third as many horses as inhabitants, which I guess there must surely be, then there are four thousand horses, at the rate of thirteen hundred pounds of hay saved per month for every four. The saving in feeding 4000 horses, is 1,300,000 lbs. per month. This hay at 50 cents per cwt. is a saving of 6,500 dollars per month; and as we are obliged to feed our horses at least five months in the year, this saving in the article of horse food for this county alone, is \$32,500. And I think we may fairly estimate that the saving in food of the cattle and sheep, would be more than that; but supposing it only the same in amount, here is a saving of 65,000 dollars in the year's feeding of our stock. And the amount of provender saved in feeding the horses during five months is 6,500,000 pounds, and the same allowed for cattle and sheep, makes the whole saving of hay 13,000,000 lbs. or 6500 tons of provender. This amount allowing a horse to consume two tons of hay per year, would support 3250 horses, that is almost double our present number. Judge Peters states that a man and a boy can cut, with Hotchkiss's cutter, in forty or fifty minutes, as much hay and more straw, as will serve six horses and fourteen or fifteen cows, for the day and night. This, he says, has been proved, by actual experiment. Now let us calculate the value of the time employed by a man and boy, in cutting straw or fodder for six horses and fourteen head of cows. It has been found to be 50 minutes by actual experiment, and the saving per horse per day 10 lbs and upwards, 20 head will give then a saving of 200 lbs. of hay by 50 minutes' work of a man and boy, with Hotchkiss's cutter. And on the supposition, that all farmers cannot get the best cutting boxes, and depend on cutting benches and reaping hooks; these I am sure, from what I have seen of them, will do the same work at all events in two hours, and for a man and a boy to save 200 pounds of fodder in two hours, is surely worth more than any other common winter work, or indeed summer work either, that we do on our farms. Is then the force of habit on ourselves, or the reluctance of an overseer or slave to do this work regularly every day, during the feeding season to stop us, who feed that number of horses and cattle from saving 200 lbs. of fodder every day, by two hours' work of a man and boy. If such obstacles can overcome our intentions, we must indeed be woefully wanting in energy, industry, patience and constancy, indeed in every manly virtue. Mr. E. J. Millard and Mr. B. Gough, who each keep a horse in town, have furnished themselves with cutting benches, and find as they tell me a saving of pro-

vider, which justifies the foregoing calculations.* Those who think fit have therefore an opportunity of looking at those benches, and examining the kind and quantity they perform. And any carpenter can fit up one if he has the materials, in one hour. This year to that part of the county, which lies above a line drawn due north from Leonard-Town to Patuxent River, has been a bad one, and crops must be there shorter than usual. Therefore to all who live in that upper half, the cutting box will prove most valuable, and to the other half, as superabundance is no where to be found, and as the next year may be their turn to suffer by the seasons, it will be found also very serviceable.

Note.—A saving of 65,000 dollars a year would in 20 years amount to the enormous sum of 1,300,000 dollars, and this again, without calculating the interest at the compound rate, would give many millions; therefore if this saving alone could be applied to improving and manuring our lands, the increase in their value would be truly incalculable.

* *A calculation of the expense of feeding one horse 12 months on chop alone—on chop-hay and corn, and on corn and hay, to wit:*

ON CHOP ALONE.

1000 wt. chop rye straw, at 50 cts. \$5 00
1 gallon chop rye per day, for 365 days, allowing 10 gallons to the bushel, is 36 bushels at 50 cts. is 18 00
\$23 00

ON CHOP-HAY AND CORN.

365 days feed of hay of 5 lbs. per day is 1825 lbs at 1 dollar per cwt. is 18 25
500 lbs. cut rye straw at 50 cts. 2 50
1-2 gallon chop rye per day for 365 days, is 18 bushels, at 50 cts. is 9 00
18 bushels of corn at 60 cts. is, allowing half gallon per day, 10 95
\$40 70

CORN AND HAY.

10 lbs. hay for 365 days at 1 dollar per cwt. is 36 50
2 gallons corn for 365 days makes 73 bushels at 60 cts. is 43 80
\$80 30

Form of a Report of the condition of the Farm, or Tract of Land, occupied by

	Acres.
Whole amount of acres contained in the tract, amount enclosed,	000
amount of woodland enclosed,	000
Number of divisions—No. of acres in each,	000
Number of acres in wheat,	
Do. do. in corn,	
Do. do. in tobacco,	
Do. do. in clover or grass and kind,	
Do. do. in common pastures,	
No. of hands—men, women, boys and girls,	
No. of ploughs run—No. of ploughs on the land, and kind used, and cost,	
No. of harrows and kind—No. of rollers and kind,	
No. of carts and wagons, and kind,	

Amount and manner of Work done.

Preparation for corn. No. and kind of ploughings, &c.
Mode of planting, distance, &c.
No. of ploughings, &c. after planting.
Preparation for tobacco—No. and kind of ploughing &c.
Size and mode of making plant beds, and time.
Mode of planting, distance, &c.
No. of ploughings, &c. after planting.
Preparation for wheat—No. and kind of ploughings, &c.

Size of beds, of lands, kind of water furrows and head furrows.

Mode of covering seed.

No. of cart loads of manure deposited in the corn field, in the wheat field—on tobacco lot.

What kind of manure.

How many hands and carts, and time consumed in hauling the above quantity of manure on each field named

No. of working horses, mules, oxen—each how fed.

Hogs, No. — how fed—Sheep, No. — how fed.

Cattle, No. — how fed and sheltered.

No. of apple trees—peach do.

Detached work done—how much and what kind.

Fencing, ditching, clearing, wood cutting, building, &c.

Small crops, amount of potatoes, turnips, flax, &c.

Internal Improvement.

FROM NILES'S WEEKLY REGISTER.

Qualities of Stiles's Improved Rotary Steam Engine.

1st. By its simplicity and compactness, a Rotary Steam Engine, of 12 to 18 horse power, will require but a space, (say for engine, boiler, and all the steam and water apparatus) 12 feet square; an engine of 60 horse power, 18 feet long by 12 wide.

2d. The pumps to supply hot and cold water, the gearing that works the same, and the pipes that conduct the water and steam, being all much more simple, than those attached to other engines, and being all comprised in one view by the engineer, are, of course, much less liable to be neglected, or to get out of order; and if any thing should be deranged, he can much sooner discover where the defect may be—as, whilst standing beside the engine, he is within arm's length of all the other machinery.

3d. When compared with the engines of Bolton and Watts, Robert Fulton, and Oliver Evans, the Rotary Engine appears incredibly simple, and to all, but the mind of a mechanic, forbids the idea that a machine with so few parts, none of which are likely to get out of order, should operate, when such a multiplicity of parts, and extraordinary weight of machinery, (all liable to be rendered useless by the slightest mismanagement, or trivial accident) are required to produce a similar effect by the other engines.

4th. The Rotary Steam Engine requiring not one half the steam that the others do, its boiler is proportionably smaller, by which the consumption of fuel is reduced to less than one half.

5th. The reduced size and extreme lightness of the Rotary Steam Engine, not only gives it a great preference for vessels, that navigate either inland waters or the open ocean, but enables the factor to put it up altogether, not only avoiding the probability of mislaying or losing any of the small articles, but (whether transported by land or water) is prepared, on its arrival (being previously packed) to be put in operation; whilst other inventions are composed of so many, and such various parts, the loss of the smallest of which, would render the whole machine out of order, and none but a person who has served at the business, can erect or work it; and requires to be sent from the factory so disjointed, as to be totally inexplicable to all but the engineer. Again, if any part of the other engines should be

broken, it would require a mechanist, with a full set of tools, to repair it: but should any part of the Rotary Steam Engine be broken, it must be in that department where a common blacksmith or a person of any mechanical mind, provided with a hammer, cold-chisel and file, in a few minutes could repair the damage.

6th. Many engines erected in the United States, have remained long idle; some of which have been entirely destroyed, by the engineer being unwilling to remain, or demanding exorbitant wages, from a conviction that the work could not proceed without him; or from the proprietor, ignorant of the qualities requisite for an engineer, employing a person incompetent to the task; but so very few and simple are the parts of the Rotary Engine, that no person of ordinary abilities, can view them a second time, without being fully informed how they operate, and how to adjust any part deranged.

7th. The motion being directly rotary, there can be no fear, on starting the engine, of breaking any thing by a too sudden impulse, which is often the case with other engines, whose crank motion, in mills as well as steam boats, tends to jar and wreck the works attached to them.

8th. Often, in the other inventions, boilers have been bursted, and persons destroyed, by the ignorance or neglect of the engineer; in the Rotary Steam Engine, adjoining the cock that lets the steam on the engine, a safety valve is placed, on which a weight is hung, proportioned to the pressure to be borne by the boiler, and whenever the steam is over that pressure, it will escape without the slightest re-action on the boiler.

9th. The numerous small parts of the other inventions, cannot be expected to last more than six or seven years, without considerable repairs; but there is no part of the Rotary Engine, that will not last for a generation, if preserved from rust, and properly worked.

10th. Many of the other inventions require to be made expressly for the machinery they are to propel, or require great additional works to attach them to any other; but the Rotary Engine made for a saw, a sugar, or a corn mill, can be applied to the one, the other, or all of them, at once; and at the same time that it is propelling at one end of the shaft, either of those mills, the proprietor may have any other machinery attached to the opposite end, without the least detriment; and an engine made for a mill, can be applied to a steam boat without the least alteration.

11th. Whenever the improper feeding of the mill, or some temporary derangement in the works, would render it dangerous to overcome the same—the Rotary Steam Engine will stop itself, until the engineer lets on more steam; but other inventions, aided by a ponderous fly or balance wheel, are, at such times, forced beyond their power, often destroying the most essential parts of the machinery, leaving the remainder a useless wreck to those, whose remoteness from a factory deprives them of immediate aid.

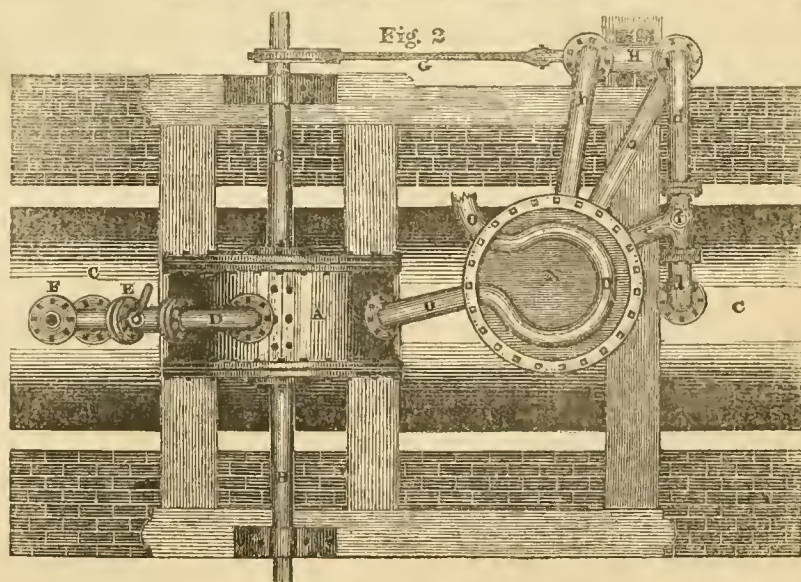
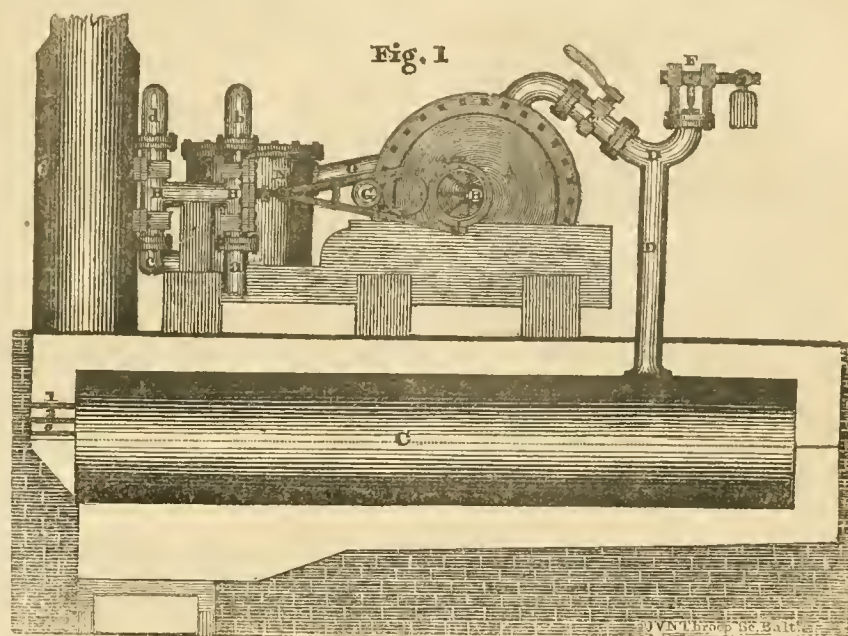
The great difficulty that exists on many sugar plantations, of procuring a sufficiency of fresh water, for the steam boiler, and sugar making, is by this engine and plan of the pumps, overcome; for the boiler, requiring but very little water, the

pump, which draws the water from the well, can supply both the boiler and the sugar maker, unless the well be more than 33 feet deep, in which the eccentric motion G, which works with the friction of only one piston, although it performs four distinct duties, can be applied altogether to the steam apparatus, and a crank motion on the same end of the shaft, be applied to a common lifting pump, which can supply all the water required. The expense of such a lifting pump must depend on the depth of the well; the gearing would be very trifling.

An engine, boiler, and all the steam apparatus requisite (for a boat) for twenty horse power, would not weigh 7000 pounds; and one of sixty horse, including the weight of water in the boiler, &c. would not exceed 12 tons weight.

The subscriber has at his factory in this city, complete sets of patterns for engines, from eight to seventy-five horse power, and can execute any orders for steam boats, mills, &c. in the space of from six weeks to four months; as also orders for sugar, corn, or saw mills, with or without steam engines.

JOHN S. STILES,



Explanation of Stiles's Improved Rotary Steam Engine, with a Horizontal Sugar Mill attached.

A The engine (in Fig. 1, 2, and 3) is a cylinder containing a proportioned steam wheel, to which are attached valves, which valves are operated on by the steam, and give a rotary motion to the shaft, the steam then goes off into the condenser, or hot water chest, N, through the pipe O, and having heated the water, then passes into the open air, or where the proprietor may wish.

B The steam shaft passes through the cylinder and the wheel, and receives its motion from the latter.

C The boiler communicates the steam to the engine through the pipe D, in which pipe are fixed the steam cock E, by which the steam is let on or shut off; and the safety valve F, which permits the steam, whenever it raises above the

FROM THE NEW YORK COLUMBIAN.

An account of the very important discovery lately made by professor Thenard of the College of France; being a method to charge water with oxygen, equal to nearly seven hundred times its own volume; with the history of the properties of water so enormously oxygenated—in a letter from Major John M. O'Connor to John Watts, M. D.; and communicated to Samuel L. Mitchell for the society for Internal Improvement.

Paris, July 11th, 1819.

My dear Sir—Knowing the interest that you take in all the discoveries and improvements, more especially in such as are even very remotely connected with your profession, I cannot deny myself the pleasure of communicating to you a discovery in chymistry of a very curious and extraordinary nature.

Mr. Thenard, Professor of Chymistry at the College of France and at the Polytechnick school and author of perhaps the best treatise now extant on Elementary and Practical chymistry, has just discovered that water is capable of absorbing or retaining in suspension a quantity of oxygen, nearly equal to its capacity of saturation of the gas acid fluoric; that is nearly equal to 700 times its own volume. The water thus saturated with oxygen, possesses very extraordinary qualities, chymical and philosophical. The origin of this discovery you will deduce from the process of obtaining the new body.—I will attempt to describe it, from recollection of the lecture and experiments of Mr. Thenard, delivered at the College of France a few days ago. I believe the memoir has not yet appeared in print.

Take a large tube, well luted exteriorly, fill it with baryte (*protoxide* of barium,) establish it across a furnace, so that its two extremities shall extend beyond the furnace; put one extremity in communication with the pneumatic table, and a reversed recipient filled with water, by means of a curved tube; and let the other extremity communicate with bladders filled with oxygen, or with vessels from whence is constantly disengaging oxygen in sufficient quantities, as from the *per-oxide* of manganese &c. The protoxide of barium being red hot, the bladders are gradually compressed, or the reduction of the per-oxide of manganese is begun; the whole of the protoxide is thus converted into dent oxyde of barium, which is taken from the tube and deposited in a recipient containing a given quantity of water. A current of gas acid, *hydro chloric* (commonly called acid muriatic) is now forced to pass into the recipient, and gives birth to a new body, hydro chlorate of *protoxide* of barium; acids, as you well know, do not combine with the dentoxide of barium; they always reduce it to protoxide. The oxygen thus disengaged from the dentoxide does not escape, but in consequence of the presence of the salt, remains in suspension or combination, (if you please) with the soluble hydro chlorate and water. The hydro chlorate is next converted into sulphate of baryte, by pouring into the recipient a proper quantity of sulphuric acid; as the affinity of baryte (protoxide) is greater for the sulphuric acid than for any other, and as the sulphate of baryte is insoluble, this decomposition and recombination is readily effected, and the sulphate easily separated

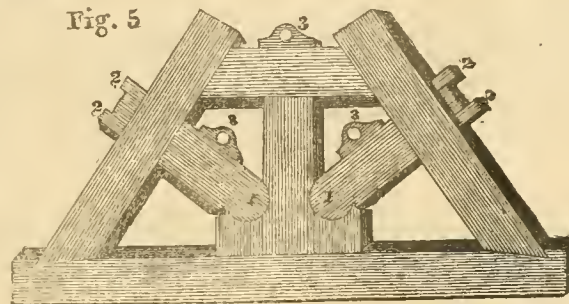
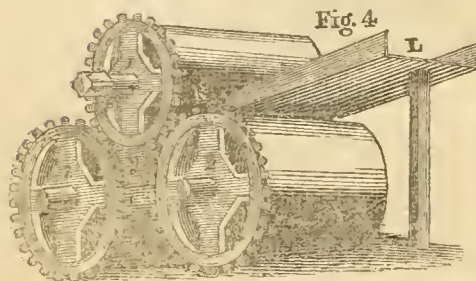
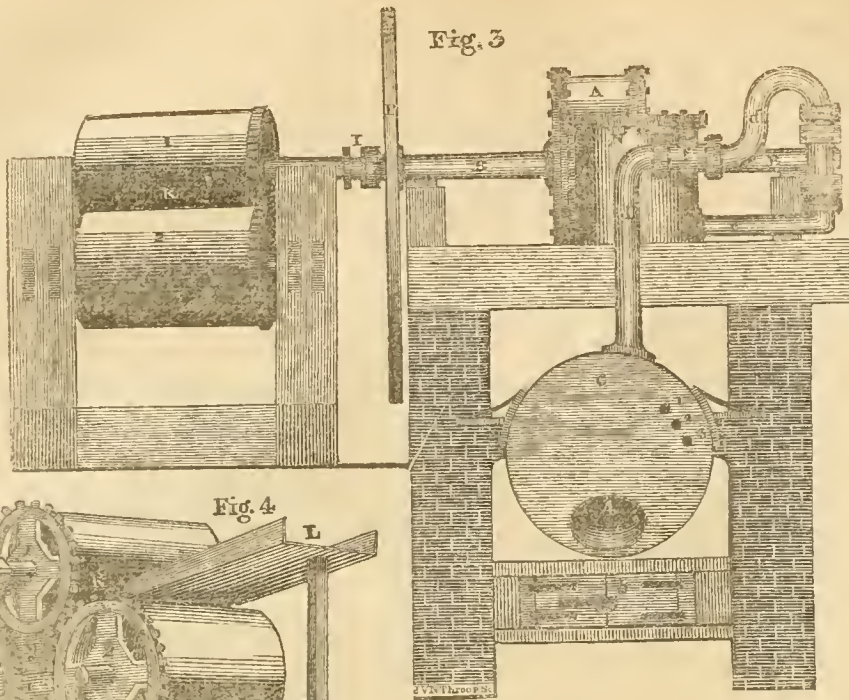


Fig. 1, is a side view of the Engine and Steam apparatus

Fig. 2, is a top view, or ground plan of the same.

Fig. 3, is an end view of the Engine, &c. &c. with a sugar mill.

Fig. 4, is a view of the sugar cane rollers &c. &c.

Fig. 5, is a view of the sugar mill frame.

required pressure, to escape without the slightest reaction on the boiler, and thereby relieving the mind from every apprehension of the boiler bursting.

G The eccentric motion on the shaft B, works the pump H, which performs four different duties, viz:

1st. By the pipe a, it draws the cold water from the well.

2d. By the pipe b, it injects the same into the hot water chest N.

3d. By the pipe c, it draws the hot water from the hot water chest, and

4th. By the pipe d, it injects the same into the boiler. f Is a cock by which the water from the pipe d, when not required in the boiler, can be returned to the hot water chest by the pipe e, without stopping the engine, or ungearing the pumps, so that any quantity of water may be lifted out of the well for any other purpose than supplying the boiler.

I The coupling box connects the shaft of the engine to that of the sugar mill.

K The sugar mill (in Fig. 3 and 4) is composed of three rollers, viz.: two are placed hori-

zontally and parallel, and the other is placed in the upper cavity, produced by the two first, viz.: 1, the driving roller, receiving its motion from the engine, and communicating the same to 2 and 3 by the cog wheels, is 22 inches diameter, and 36 inches long; 2 and 3 are 26 inches diameter, and 36 inches long.

L In fig. 4, is a trough, in which the cane being put, is conveyed in between the rollers 1 and 2, and then by the conductor M is caused to pass between the rollers 1 and 3. There are sufficient spaces between the conductor and the rollers, for the juice to pass into the vat beneath.

P In Fig. 3, Is a small wheel or lever, by which to start the engine, when newly packed.

Fig. 5. The rule joint 1 is for the purpose of permitting the wedges 2 to raise or lower the rollers, to grind the cane fine or coarse. 3 are the bearings and brasses in which the rollers work.

Fig. 1 and 3—1, 2, and 3 are the gauge cocks, by which to ascertain the quantity of water in the boiler. 4 is a fire place through the boiler. 5 are the furnace doors. 6 is the chimney.

from the water by filtration. The water now contains only the acid hydro chloric and oxygen; for during the latter operation there is no disengagement of oxygen. This composition and decomposition of hydro chlorate and production of sulphate of baryte may be repeated even 30 or 40 times, till the water is perfectly saturated with oxygen. The quantities of the respective bodies being determined, that of the oxygen in suspension or combination with the liquid muriatic, you can readily discover from the laws of the composition of salts and oxygen. The only difficulty is to separate the acid hydro chloric from the water and oxygen. This is effected by the addition of a suitable quantity of nitrate of silver, which is instantly decomposed by the acid hydro chlorate, and converted into prochlorate of silver, which being perfectly insoluble in water, is easily separated from the mixture of liquid, nitric acid and oxygen, now remaining in the recipient.

The nitric acid is next separated from the water and oxygen by an oxyde capable of forming an insoluble sub-nitrate, or by an excess of potash perfectly free from extraneous bodies, and crystallized by frigorific compositions. The water and oxygen is thus obtained pure; for during all the compositions and reductions, no sensible quantities of the gas has been disengaged. In this state, the water contains about 120 or 130 times its volume of oxygen; its density is greatly increased; and what is remarkable, its tension is diminished.

The next process is to concentrate the new compound, by separating it from as great a quantity of the aqueous fluid, as possible; this is effected by means of the pneumatic pump. The case containing the per-oxygenated water is placed under the recipient of the pump, on a stand in the middle of a broad vessel, containing very concentrated sulphuric acid; and the pump is put into motion, until the mercury of the siphonette or manometer of the pneumatic machine, is within two or three millimetres (about 1 line) of the level. To produce so great rarefaction, of course, the very best machine must be used. The greater part of the water is thus evaporated, and expelled through the valves, or absorbed by the powerful affinity of the sulphuric acid for the aqueous fluid; the per-oxygenated water is thus concentrated, until it contains 600 times its volume of oxygen gas, and its specific gravity is greater by one half than that of water. The extraordinary diminution of the tension of the per-oxygenated water, so opposite to all other combinations of water and gas; the latter, however great its affinity for the water, disengaging itself immediately in vacuum, or when in ebullition, is not the least remarkable part of this new body; its oxygen is, however, immediately disengaged by ebullition. Probably the excessive cold produced under the recipient, facilitates the concentration of the new compound, by destroying its tension.

Its action upon the animal economy, is very great; the smallest drop instantly whitens the skin, raises a huge blister, and produces a severe momentary pain. In this respect it somewhat resembles the gas acid fluoric; but is not so dreadfully and inevitable a poison as this latter; it seems merely to destroy the cuticle of the part. Doubt-

less if taken interiorly, it might be attended with serious consequences. It is, however, instantly decomposed, and the oxygen totally disengaged by the substances of the organs of the human body, such as the nerves and muscles, the liver, the spleen, &c. and by all metals and oxides. In the decompositions no new body is formed, the oxygen is expelled with loud explosion, and the bodies being determined, that of the oxygen in animal, metallic, or oxidized substance is without suspension or combination with the liquid muriatic, you can readily discover from the laws of the composition of salts and oxygen. The only difficulty is to separate the acid hydro chloric from the water and oxygen. This is effected by the addition of a suitable quantity of nitrate of silver, which is instantly decomposed by the acid hydro chlorate, and converted into prochlorate of silver, which being perfectly insoluble in water, is easily separated from the mixture of liquid, nitric acid and oxygen, now remaining in the recipient.

The action of light and radiating caloric, is nugatory on this new body; and most probably the loadstone is also without influence. We must therefore conclude, that its reduction by metallic oxides, and animal organic substances, is the effect of electrical actions, or of some other fluid at present unknown. It is without action on vegetable colours, and combines with no oxyde to form a salt; it cannot, therefore, be regarded as an acid, since it is destitute of every characteristic of an acid, except the common acidifying principle—the oxygen. When left long exposed to the air, it loses a great portion of its oxygen.

Thus it is found that the admirable experiments made by baron Humboldt and G. Lussac, in 1805, on the affinity of water for air and oxygen which they found did not exceed $\frac{1}{3}$ th part of its volume of the latter, and $\frac{1}{10}$ th of the former, at the common temperature, and under the ordinary pressure of the atmosphere, and to be totally null in vacuum, are only true in the simple contact of water with air or oxygen. The presence of an acid entirely changes the affinity. I forgot to mention, that when the decomposition of the per-oxygenated water is taking place by the influence of the metal oxyde, or organic substance, the addition of an acid suddenly arrests the reduction, and gives stability to the new compound. Hence it appears, that only those bodies that are attracted to the negative pole of the voltaic battery, are capable of reducing this singular compound.

Doubtless this discovery will excite the interest and curiosity of our American chymists and philosophers. I invite you to communicate the facts to the New York Institute, and to your learned friends. The narrow limits of a letter preclude me from entering into further details. The facts here stated I was myself a witness to. Mr. Thenard made all the experiments, in our presence at the college of Fana, with that ability and zeal for which he is so highly distinguished among the ablest chymists of the age.

Mr. Guy Lussac has lately discovered that the reduction of the per-oxyde of manganese by the sulphuric acid, does not produce a sulphate, as was hitherto supposed; but gives birth to a new acid, (and of course to a new salt) inferior in the quantity of its acidifying principle to sul-

phuric acid, and holding an intermediate station between the sulphureous and sulphuric. He has proposed to call it by hydro sulfuric; but Professor Thenard has denominated it sulphant, by a new termination in *ant* of the generic word, agreeably to the genius of the chymical nomenclature. I forgot how far that great chymist and philosopher, Gay Lussac, participated in the discovery of his colleague Mr. Thenard.

Extracts from a *Compendious Dictionary of the Veterinary Art.*

(Continued from No. 29—p. 183.)

Brain. The intimate though invisible connexion between this important organ and the stomach, causes its functions to be often disturbed both in horses and other animals; thus in cases of indigestion, the brain is the part that appears to be principally affected; it is sometimes, however, diseased independently of the stomach; and the affections to which it is most liable are inflammation and dropsy. The former complaint is indicated by violent delirium, redness of the membranes of the eye, and strong pulsation of the temporal arteries; the animal often becomes quite furious, so that it is dangerous during the paroxysm for any one to approach him; after a little time, he generally becomes quiet and sometimes lies down apparently in a dying state; the delirium returns, and he becomes more violent perhaps than at first. In this way the animal sometimes continues one, two, or even three days; when suppuration takes place in the brain, nature becomes exhausted, and death puts a period to his suffering. I have often had occasion to remark, that in all cases of internal inflammation copious and early bleeding is the grand, the essential remedy. In this case, however, it is, if possible, more particularly necessary; and the most ready way of obtaining a speedy and sufficient evacuation is by opening both temporal arteries, and allowing them to bleed until the animal becomes perfectly quiet, or even faint. If this cannot be accomplished, both jugular veins should be opened, and the bleeding continued by tying a cord round the neck so tight as to keep up a constant flow of blood from both orifices; but the cord should never be applied until the veins have been opened. (See *Bleeding*.) To prevent a recurrence of the disease, a dose of physic should be given; and it will be necessary for sometime afterwards to feed him rather sparingly, principally with bran mashes or green food.

Dropsy of the Brain does not often occur to horses or cows, but sheep appear to be more liable to the disease than other quadrupeds. The symptoms of the disorder in horses are variable. In one case there was a considerable degree of dullness and heaviness about the head, the pulse not much affected, loss of appetite: the animal appeared as if suffering much pain in the head, generally keeping it lower than the manger; these symptoms were followed by delirium, convulsions, and death. In another case, where probably the water had accumulated very gradually in the cavities of the brain, the horse appeared to be free from pain, except when put suddenly into brisk motion, when he would fall down in violent spasms; the fit seldom lasted

above a few minutes. The horse, being of scarcely any value, was destroyed, and, upon examining the brain, about six ounces of water were found in its ventricles or cavities. In the treatment of this complaint, Mr. Blaine recommends diuretics and mercury, with a view to procure an absorption of the accumulated fluid; perhaps, in an early stage of the complaint, a strong mercurial purgative, assisted by a blister to the head, and a rowel between the branches of the under jaw, may remove the disorder; but at any later period, there does not appear to be any chance of a cure. Sir George Mackenzie has described two kinds of this disease, which sometimes happen to sheep; the first consists of an accumulation of water in the ventricles of the brain, which is considered to be incurable; the other, which is most common arises from animalculæ called hydatids. In this case, the water is contained in cysts or bags, unconnected with the brain, on which, however, if not prevented, it acts fatally by pressure; very soon after water has begun to collect, either in the ventricles or cysts, the animal subjected to the disease shows evident and decisive symptoms. It frequently starts, looks giddy and confused, as if at a loss what to do. It retires from the flock, and sometimes exhibits a very affecting spectacle of misery. Various methods of relieving the pressure of the brain have been proposed, and, when put in practice by patient and skilful hands, most of them have succeeded; but a method has been found of perforating the cyst, which has succeeded perfectly in numberless instances: this operation consists in "thrusting a piece of wire or a knitting-needle up the nostrils, and forcing it through the skull into the brain." (*A Treatise on Sheep*, by Sir George Mackenzie.) The brain is subject to other diseases, which do not appear upon dissection, to depend upon any alteration in its structure, upon inflammation, or upon an accumulation of water in its cavities. See *Epilepsy Giddiness*, and *Mergims*.

Braxy or Sickness. A complaint very common upon sheep, which, in Scotland, is termed *watery braxy*; they describe also a dry and a costive braxy. The former is said to depend upon a retention of urine, caused by feeding too freely on succulent diuretic food, and resting too long in their lairs in the morning. The disease, therefore, may be prevented by avoiding too free a use of such food, and by moving them from their lairs on pens early in the morning, in order to encourage them to pass their urine. All diuretic medicines are of course highly improper in this complaint. The costive braxy is said to be produced by eating hard dry food, drinking cold water, when the body is overheated, or its being plunged into water while in that state; or suddenly drenched with rain or chilled by a shower of snow. In this kind of braxy, a dose of salts, about two or three ounces, glysters, and bleeding are the proper remedies. The dry braxy appears to be an inflammatory affection, particularly of the bowels, for which bleeding, castor-oil, and glysters are suitable remedies.

Breaking down. An accident that often happens during violent exertion, as in racing. According to Mr. Blaine, it depends upon a rupture of the suspensory ligament of the leg. This accident, I believe, occurs but seldom, and the injury

this named, is more commonly a severe strain of the sheath of the flexor tendon or back-sinew. (See *Strain*.) When the ligament is ruptured, it may be known by the increased obliquity of the pastern; the fetlock joint, when made to sustain any weight, being bent nearly to the ground. The animal, however, retains the power of moving the pastern, which would not be the case, if the tendon were ruptured. A perfect cure can hardly be expected in this case, though the horse may be rendered serviceable for the purposes of agriculture. The ends of the ruptured ligament are to be brought as near to each other as can be, in which situation they are to be kept, until a re union has taken place. There will be some difficulty in accomplishing this; a high heeled shoe would perhaps contribute materially towards it; the bandage, which must be employed on the occasion, should be kept constantly wet, with a solution of acetate of lead in cold water. After some time, when it may reasonably be presumed that a re-union has taken place, the heels of the shoe should be gradually reduced.

Broken knees. After washing the wound carefully with warm water, apply a poultice if the injury is considerable, and renew it morning and evening, until the swelling and inflammation of the knee have subsided; stimulating applications will then be proper; such as a solution of sulphate of copper (blue vitriol,) or sulphate of zinc (white vitriol.) When the wound does not appear to heal under this treatment, try the following ointment:

Ointment of yellow rosin, four ounces.

Oil of turpentine, two drachms.

Red precipitate finely powdered, half an ounce.—Mix.

Should the new flesh rise above the surface, sprinkle on it some finely powdered burnt alum. In slight cases of broken knee, it will be sufficient to wash the part several times a day with a cold solution of acetate of lead (sugar of lead,) about one ounce to a quart of water; this in two or three days will remove any inflammation or swelling the blow may have produced; camphorated mercurial ointment may then be applied to hasten the growth of hair on the part.

(To be continued.)

FOR THE AMERICAN FARMER.

DOMESTIC INDUSTRY.—No. IV.

Baltimore October 16, 1819.

Mr. SKINNER,—From Spain, let us now turn to England, that little spot, which, including Wales, contains thirty-eight and a half millions of acres; and of these about eleven and a half are in a state of cultivation; that is, little more than one-third the extent of Pennsylvania. Here we find a population of ten millions, not more than four of which are employed in agriculture. It appears, however, that in the year 1810, the amount of profits arising from farming, was twenty-nine and a half millions of pounds sterling, or one hundred and thirty-one millions of dollars. Of the remaining six millions, at least five-sixths live by trade and manufactures; and the effects produced at home and abroad by the latter, may be partly estimated from the following facts.

In the year 1800, it appears from public do-

cuments, that fifteen millions of pounds sterling worth of cotton goods were manufactured in England, from seven millions worth of cotton wool; and that the manufacturing wages thereon, amounted to six millions four hundred thousand pounds, and employed four hundred and twenty-seven thousand persons.

The wool manufactured the same year, was valued at six millions sterling; and the articles manufactured from it, at eighteen millions. The manufacturing wages amounted to nine millions six hundred thousand pounds. The hardware manufactured the same year, in Birmingham and Sheffield alone, amounted to three millions, and two hundred thousand pounds; of which one-third came to the United States. It should be observed that these are the *official* or custom-house values, which is only two-thirds of the market price. We will only add, that the same year's amount of pottery was valued at two millions sterling, and employed from thirty-five to forty thousand persons.

Let us now take a view of *both sides* of the cotton trade between this country and England. In 1810, the quantity of cotton imported into England from the United States, was fifty-five millions, one hundred and ninety-four thousand, six hundred and sixteen pounds. And the average price that season was about sixteen cents per pound; consequently the amount was about eight millions, eight hundred and fifty-one thousand, one hundred and thirty-eight dollars. Now the amount of cotton goods imported from England the same year, was six millions, six hundred and sixty-seven thousand, six hundred and eight pounds sterling, official value, or ten millions, one thousand, four hundred and twelve pounds, market value, equal to forty four millions, four hundred and fifty thousand, seven hundred and twenty dollars; from which if we deduct the amount of the raw material, there will remain a balance of thirty-five millions, five hundred and ninety-nine thousand, five hundred and eighty-two dollars, in favour of England. Such is the result of selling raw materials, and bringing the articles manufactured from them. Such are the means by which England supports her extravagance, and makes every nation, that deals with her, tributary. Such she has made Spain and Portugal; and such she will make some others, if they do not look better to their own interest, than they have done. Again, we have seen that fifteen millions worth of manufactured cotton goods employed four hundred and twenty-seven thousand persons for a year; and that in one year we have imported six millions, six hundred and sixty-seven thousand, six hundred and eight pounds sterling, which bears the same proportion to fifteen millions, that one hundred and eighty-nine thousand, seven hundred and seventy-seven does to four hundred and twenty-seven thousand; hence it appears, that our importations of British cotton goods alone, give employment to one hundred and eighty-nine thousand, seven hundred and seventy-seven persons in England!! And cost us, over and above all the cotton she buys from us, thirty-five millions, five hundred and ninety-nine thousand, five hundred and eighty-two dollars per annum. If a like view were taken of the woollen, hardware, earthenware, and glass, we would be so far from being surprised at the scarcity of

money amongst us, that the only wonder would be, how any was left.

Let not the American Farmer think these are matters, with which he has no concern. He is deeply interested in them, as any other in the community. If the country be impoverished, he must suffer with the rest. Without capital, he cannot carry on his business any more than the merchant; and surely he cannot expect a profitable foreign market, when wheat is coming from Europe, and selling in our ports at fifty cents per bushel.

Yours, &c.

COGITATIVUS.

Occasional Extracts.

MR. SKINNER,—As it is of some consequence to our agriculturists and to all the labouring classes, who employ wheel carriages, that they should be easily moved; allow me to present a few observations on the structure of the wheel in common use, which seems to be a little in opposition to easy motion, and rather unsuspected, aiding the vis inertiae of the several machines intended to be moved. It may be a gratification to the ill-willed disposition of some, that our cart wheels drive heavily; but even in their hardness for the animals which drag them, as well as our interest in both the carriage and the creatures, requires that we should look a little to the matter.

The wheels of all the carriages I see, except the wheel barrow, are made with the spokes obliquely fixed in the hub to the felloe, or from the centre to the circumference of the wheel, which means a hollow is made from the rim to the hub, and this is called dishing. The consequence is that the wheel being made a section of a cone or a sugar loaf, never rolled directly forward, but declines outward from both sides and must be dragged by force in a straight line against this tendency. Hence the labour of drawing the carriage is increased, the violence done to the wheel and body is greater; consequently, a less burden can be carried with the same force, and the carriage is more shaken and worn, than if the wheel was made with the spokes fixed straight or perpendicular from the hub to the rim.

Let any one attempt to roll a sugar loaf, he will immediately see that instead of going forward, if left to itself, it will revolve in a circle; and if he has a mind to make it go straight forward, he must add a force proportioned to the weight to drag it forward. It will be the same with every section of the sugar loaf from end to end; each round cut off will still attempt when pressed to form a circle. If the circumference of a dished wheel was extended in parallel lines agreeably to its inclination, it would end in a point, and make a cone, the shape of the loaf of sugar. Take then a carriage wheel formed as they are at present, and roll it from the hand up a level surface, it will be presently seen that it runs to one side, and if there is room and sufficient impulse given, it will run fairly round. When two wheels are fastened at the ends of an axle, they incline different ways, and a constant struggle is maintained to draw them forward. Which when the weight is considerable can only be done by a great power. In a wagon carry-

ing a ton or more, it will require an additional horse. But other inconveniences follow; the roads are more broken, the carriage shaken, &c. Indeed, I sometimes think the great dishing of the wheels may be known at a distance by the noise and dust that is raised.

This mode of forming the wheel, like every other received practice, has its advocates. The wheelwrights say the wheel is stronger, that it casts the dirt better off the body; and that they make the surface upon which the wheel rolls, so flat and level that it does not take the motion sideways. But they are not aware that the making of the top line flat will never correct the effect of the figure of the wheel. Let then the matter be tried, and as far I am informed by an experiment recorded in the proceedings of the board of agriculture of England, and a small trial at home, the difference between wheels, constructed upon the principles here mentioned, will immediately appear, though its plainness may not convince the farmer or mechanic, as I have found by experience.

J. M.

Baltimore, Oct. 16, 1819.

ON THE CULTIVATION OF ONIONS AS PRACTISED IN NEW ENGLAND.

New London, Ct. Oct. 23, 1819.

MR. SKINNER,—I observed in your valuable American Farmer of the 15th inst., a request from a correspondent, that you would "publish an account of the method of cultivating the onion in New England." Believing that your correspondent would not have made this request without thinking the information required would be beneficial to himself and his fellow-citizens, I send you the following account of the manner of cultivating this valuable root in Wethersfield, in this state. The onions of Wethersfield, have been considered, and I believe justly too, superior to any others raised in New England. The soil of Wethersfield is a rich damp mould. Almost every family has a garden containing from a rood to two or three acres; and sometimes six or eight. The longer gardens have been planted with onions, the better they are considered; on the other hand, a new garden, however rich the land may be, will hardly ever produce half a crop.

Early in the spring the ground is heavily manured—dry gardens, with ox manure; and those on low lands, with that of horses, the manure well rotted. Soon after the frost is out of the ground, the gardens are ploughed, [a spade is never used] the land is then thoroughly harrowed; after which the beds are laid out [by a plough drawn by a horse generally] about four and a half feet in width. These beds are intersected with allies across the garden, as often as suits the taste or convenience of the owner. The beds are then made with a rake and hoe of an oval form—a marking rake is then made use of, for marking the proper distances of the rows, and for making an opening to receive the seed. This rake is like a common rake, with the exception, that it only has four teeth about eight inches distant from each other. The rows are always made across the beds. After the marking is performed, a woman follows [for almost every thing in raising onions, is done by the women] and sows the seed, by taking a pinch of the same from a dish she carries with her, and distributing it properly through the trench made by the rake, she then covers it. About three weeks after sowing, the onions must be weeded; this is done after hoeing between the rows; the weeder then carefully takes the weeds from among the onions, and brings fresh dirt to them. The onions must be weeded four or five times in this manner during the summer. When they are sufficiently ripe for gathering—their tops being dry and fallen, they are pulled and stripped [tops cut off] and carried out of the way of the rains, they are then brushed and are ready for market.

I am apprehensive that this sketch will contain little, if any, new information; nevertheless, this is the "method of cultivating the onion in New England."

The profits of raising onions in good seasons are considerable. An acre of ground well cultivated, I presume, will produce four thousand bunches; you can calculate what they would be worth.* I remarked before, that most of the labour in raising onions is performed by women. It is even so, and there are but few ladies in Wethersfield that think the employment beneath them. Nor does the employment at all tend to debase or darken the mind. I will leave it to any good judge, whether the ladies of that town are not as easy in their manners, as interesting in their conversation, and as elegant in their appearance as those of any other place.

You see, Mr. Skinner, that I am an advocate for industry; not that industry which induces a lady to spend six months in working a ruffle, but that which adds something to the common stock of human blessings.

Wishing you success in your present arduous undertaking, that of disseminating knowledge on the noble science of agriculture, I subscribe myself, respectfully,

Your obedient servant,
SIMEON FRANCIS.

* Four hundred dollars in this market.—Edit.

ENGLISH AGRICULTURE.

MR. SKINNER Looking over a file of English News Papers the other day, I met with the following in the Norwich, Yarmouth, and Lynn Courier of May 1st. last, which I transcribe for the information and example of such as look up with reverence, and give the preference, as they ought undoubtedly, to every thing from the mother country. The new system of manuring ground, originated, no doubt, in the abundant crops produced on the fields of Waterloo, since the battle. I should be glad if some of your numerous correspondents would inform us of the origin of the ingenious mode of increasing the produce of apples.

IGNORAMUS.

A correspondent from Grimsby, referring to the arrival of several vessels at that port from the Continent with bones, observes, that the eagerness of English agriculturists to obtain this manure, and the cupidity of foreigners in supplying it, is such as to induce the latter actually to rob the sepulchres of their forefathers. Bones of all descriptions are imported; pieces of half decayed coffin tire are found among them; and those skilled in anatomy have no hesitation in pronouncing many of the bones to have belonged to human beings!

SINGULAR CUSTOM.

The southern part of Devon is remarkable for its excellent cider. For the purpose of ensuring a good fruit harvest, the following custom is almost universally kept up in that part of the country. On the eve of the Epiphany, the farmer attended by his workmen, with a large jug of cider, repair to the orchard, and encircling one of the best bearing trees, they drink the following toast three several times:—

Here's to thee, old apple tree;
Whence thou may'st bud, and whence thou may'st blow!

And whence thou may'st bear apples enow!

Hats full! caps full! bushel, bushel, sacks full!

And my pockets full too! Huzza! huzza!

Some are so superstitious as to believe, that if they neglect this ancient custom, be the weather what it may, the trees will bear no apples that year.

THE FARMER.

BALTIMORE, FRIDAY, OCTOBER 29, 1819.

A hint—every farmer should occasionally spread on his manure heap and farm pen, through the winter, a bushel or two of plaster—we are assured that fer-

mentation quickly cures, and putrefaction is so rapidly promoted, that the manure is in much better order for use in the spring—so says *experience*.

To numerous applications for Chile wheat, that we should have been happy to gratify, we must answer that we have none. However, it is now well distributed and in a fair way for experiment—another year will test its qualities, and enable all who may desire it to cultivate it.

We respectfully request those who have generously taken an interest in the success of this paper, to use their influence to add to our list of subscribers—if each subscriber we have now would only add one name more, we could promise them an engraving in every number of some useful machine or agricultural implement of domestic invention, or taken from foreign publications. This would greatly enhance the expense of the work, but it would also very much enhance its value, and the Editor is very anxious to accomplish it if possible.

Western Canal—A letter to the Editor of the Northern Whig, dated at Rome on the 27th ult. mentions, that the water is now in the canal for the distance of nine miles, commencing about four miles below that village; and that the commissioners and engineers have passed in boats drawn by horses, upon the canal, upwards of eight miles. The writer adds, that "before the close of the season, salt will undoubtedly be carried from Salina to Utica by means of the canal."

POOR RICHARD'S ALMANAC.

*The way to wealth, as clearly shown in the Preface of an old Pennsylvania Almanac, intitled, Poor Richard improved.**

COURTEOUS READER,

I have heard, that nothing gives an author so great pleasure, as to find his works respectfully quoted by others. Judge, then, how much I must have been gratified by an incident I am going to relate to you. I stopped my horse lately, where a great number of people were collected at an auction of merchant's goods. The hour of sale not being come, they were conversing on the badness of the times; and one of the company called to a plain clean old man, with white locks, "Pray Father Abraham, what think you of the times? Will not these heavy taxes quite ruin the country? How shall we ever be able to pay them? What would you advise us to do?"—Father Abraham stood up, and replied, "If you would have my advice, I will give it to you in short, 'for a word to the wise is enough,' as poor Richard says." They joined in desiring him to speak his mind, and gathering round him, he proceeded as follows:

"Friends," says he, "the taxes are indeed, very heavy, and, if those laid on by the government were the only ones we had to pay, we might more easily discharge them; but we have many others, and much more grievous to some of us. We are taxed twice as much by our idleness, three times as much by our pride, and four times as much by our folly; and from these tax-s the commissioners cannot ease or deliver us, by allowing an abatement. However let us hearken to good advice, and something may be done for us; 'God helps those who help themselves,' as poor Richard says.

"1. It would be thought a hard government that should tax its people one tenth part of their time, to be employed in its service; but idleness taxes many

* Dr. Franklin for many years published the Pennsylvania Almanac, called *Poor Richard* [Saunders], and furnished it with various sentences and proverbs, which had principal relation to the topics of "industry, attention to one's own business, and frugality." The whole or chief of these sentences and proverbs he at last collected and digested in the above general preface, which were read with much avidity and profit; and perhaps tended more to the formation of a national character in America, than any other cause.

of us much more; sloth, by bringing on diseases, absolutely shortens life. "Sloth, like rust, consumes faster than labour wears, while the used key is always bright," as poor Richard says. "But dost thou love life, then do not squander time, for that is the stuff life is made of" as poor Richard says. How much more than is necessary do we spend in sleep forgetting, that "the sleeping fox catches no poultry, and that there will be sleeping enough in the grave," as poor Richard says.

"If time be of all things the most precious, wasting time must be," as poor Richard says. "the greatest prodigality;" hence, as he elsewhere tells us, "lost time is never found again; and what we call time enough always proves little enough;" let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity. "Sloth makes all things difficult, but industry all easy; and he that riseth late must trot all day, and shall scarce overtake his business at night; while laziness travels so slowly, that poverty soon overtakes him. Drive thy business, let not that drive thee; and early to bed and early to rise, makes a man healthy, wealthy, and wise," as poor Richard says.

"So what signifies wishing and hoping for better times? We may make these times better, if we bestir ourselves. "Industry need not wish, and he that lives upon hope will die fasting. There are no gains without pains; then help hands, for I have no lands," or if I have they are smartly taxed. "He that hath a trade, hath an estate; and he that hath a calling hath an office of profit and honour," as poor Richard says; but then trade must be worked at, and the calling well followed, or neither the estate nor the office will enable us to pay our taxes. If we are industrious, we shall never starve; for, "at the working man's house, hunger looks in but dares not enter." Nor will the bailiff or the constable enter for industry pays debts, while despair increaseth them." What though you have found no treasure, nor has any rich relation left you a legacy, "diligence is the mother of good luck, and God gives all things to industry. Then plough deep, while sluggards sleep, and you shall have corn to sell and to keep." Work while it is called to-day, for you know not how much you may be hindered to-morrow. "One to day is worth two to-morrows" as poor Richard says; and farther, "never leave that till to-morrow, which you can do to-day." If you were a servant, would you not be ashamed that a good master should catch you idle? Are you then your own master? Be ashamed to catch yourself idle, when there is so much to be done for yourself, your family, your country and your king. Handle your tools without mittens; remember, that, "the cat in gloves catches no mice," as poor Richard says. It is true, there is much to be done, and perhaps you are weak handed; but stick to it steadily, and you will see great effects, for "constant dropping wears away stones; and by diligence and patience the mouse ate in two the cable; and little strokes fell great oaks."

"But what madness must it be to run in debt for these superfluities! We are offered by the terms of this sale six months credit; and that perhaps has induced some of us to attend it because we cannot spare the ready money, and hope now to be fine without it. But ah! think what you do when you run in debt; you give to another power over your liberty. If you cannot pay at the time, you will be ashamed to see your creditor, you will be in fear when you speak to him, when you will make poor pitiful sneaking excuses, and by degrees come to lose your veracity, and sink into base, downright lying; for, "the second vice is lying; the first is running in debt," as poor Richard says; and again to the same purpose, "lying rides upon the debt's back; whereas a freeborn Englishman ought not to be ashamed nor afraid to see or speak to any man living. But poverty often deprives a man of all spirit and virtue. "It is hard for an empty bag to stand upright. What would you think of that prince, or of that government, who should issue an edict forbidding you to dress like a gentleman or gentlewoman, on pain of imprisonment or servitude?

Would you not say, that you were free, have a right, to dress as you please, and that such an edict would be a breach of your privileges, and such a government tyrannical? And yet you are about to put yourself under the tyranny, when you run in debt for such dress! your creditor has authority, at his pleasure, to deprive you of your liberty, by confining you in goal for life, or by selling you for a servant, if you should not be able to pay him. When you have got your bargain you may, perhaps, think little of payment; but as poor Richard says, "creditors have better memories than debtors; creditors are a superstitious sect, great observers of set days and times." The day comes round before you are aware, and the demand is made before you are prepared to satisfy it; or, if you bear your debt in mind, the term, which at first seemed so long, will as it lessens, appear extremely short; time will seem to have added wings to his heels as well as to his shoulders. "Those have a short lent, who owe money to be paid at Easter." At present, perhaps you may think yourselves in thriving circumstances, and that you can bear a little extravagance without injury; but

"For age and want save while you may,
No morning sun lasts a whole day."

Gain may be temporary and uncertain, but ever, while you live, expense is certain and constant; and, "it is easier to build two chimneys than to keep one in fuel," as poor Richard says; so, "rather go to bed supperless than rise in debt."

"Get what you can, and what you get hold,
'Tis the stone that will turn all your lead into gold."
And when you have got the philosopher's stone, sure you will no longer complain of bad times, or the difficulty of paying taxes.

IV. This doctrine, my friends, is reason and wisdom; but, after all, do not depend too much upon your own industry, and frugality, and prudence, though excellent things: for they may be blasted, without the blessing of heaven; and therefore ask that blessing humbly, and be not uncharitable to those that at present seem to want it, but comfort and help them. Remember Job suffered and was afterwards prosperous.

"And now, to conclude, "experience keeps a dear school, but fools will learn in no other," as poor Richard says, and scarce in that; for it is true "we may give advice, but we cannot give conduct;" however, remember this, "they that will not be counselled cannot be helped;" and farther, that "if you will not hear reason, she will surely rap your knuckles," as poor Richard says."

Thus the old gentleman ended his harangue. The people heard it, and approved the doctrine; and immediately practised the contrary, just as if it had been a common sermon, for the auction opened and they began to buy extravagantly. I found the good man had thoroughly studied my almanacs, and digested all I had dropt on these topics during the course of twenty-five years. The frequent mention he made of me must have tired any one else; but my vanity was wonderfully delighted with it, though I was conscious, that not a tenth part of the wisdom was my own, which he ascribed to me, but rather the gleanings that I had made of the sense of all ages and nations. However, I resolved to be the better for the echo of it; and, though I had at first determined to buy stuff for a new coat, I went away, resolved to wear my old one a little longer. Reader, if thou wilt do the same, thy profit will be as great as mine.

I am, as ever,
Thine to serve thee,
RICHARD SAUNDERS.

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,
BALTIMORE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . Virg.

VOL. I.

BALTIMORE, FRIDAY, NOVEMBER 5, 1819.

NUM. 32.

AGRICULTURAL.

FOR THE AMERICAN FARMER

Pharsalia, 21st Sept. 1819.

S. SKINNER, Esq.

Dear Sir,—It gave me great pleasure to observe in the 15th number of the "American Farmer," some notice of a subject which has deeply interested my wishes, and occupied a great deal of my labour for the last four years;—I allude to the important operations of marsh embankment. Seven years ago, I relinquished the laborious duties of a harassing profession, which I pursued on the Eastern Shore of Virginia, and purchased on the Atlantic side of our peninsula, an extensive farm, which abounded in marsh esteemed of a good quality for spring grazing. Although I had always felt a particular predilection for the independent occupations of husbandry, which was not repressed even by the daily opportunity of witnessing the laborious drudgery with which it is pursued upon the rugged soil of the interior of Pennsylvania, my native state, I bestowed but little attention to the practicability of reclaiming our low grounds until within the last five years. My first essay was then attempted, rather from motives of health and comfort, than from any expectation of improving the quality, or increasing the quantity of my grass lands.

Two small pieces of low, detached marsh, nearly surrounded by high ground, containing perhaps, five acres, both of which were mud flats, entirely naked of grass, unless during an occasional very dry summer, and lying near the site of the dwelling-house, presented offensive objects to the eye, evidently contaminated the atmosphere by the miasmata that were exhaled from their surface, and, what was almost equally distressing, afforded a nidus for the generation of myriads of pestilential mosquitoes every summer. To drain and embank these pieces of marsh became early an object of considerable interest. After imperfectly completing this rude attempt, for I was ignorant of the most eligible process of effectually accomplishing it, I was surprised and delighted to observe that a fine growth of grass had clothed the whole surface with a beautiful verdure, before the close of the season in which the work was finished. As the soil was purely alluvial, I entertained no doubt of its great fertility; but I was astonished to see it so soon covered with a grass which grew only on rich, and low grounds. The innumerable small springs which emptied themselves into them from the adjoining high grounds, had preserved them in nearly a fresh state.

From this limited success, my attention was attracted to more extensive enterprise, and during the two succeeding summers I embanked about 120 acres of marsh. Having no experienced labourer at command, and absurdly depending upon the weight of the incumbent mud, to compress my mounds into a compact body which would be impervious to water, I constructed my banks in a careless and rough manner; pressing the work with too much ardour, and anxious only to heap the mass to a sufficient elevation to oppose our high tides. The consequence was, what any man of common sense ought to have anticipated, the dikes proved so leaky as to admit salt water enough to cover the surface of my low marsh during high tides, and became sources of perpetual embarrassment and expense. Finding them ineffectual, I resolved to make a more patient and judicious effort; and in June last I commenced another bank, including all the marsh before embanked, and finished upwards of 2000 yards by the last of August, which completely answers my highest expectations. To-day I had a fine opportunity of testing the tightness of my banks;—the salt water rose upwards of two feet upon their outside, and scarcely a gallon passed through them.

I trouble you with this familiar narrative of my experiments, that you may better comprehend my intention, in requesting your particular notice of the subjects of inquiry, which I shall take the liberty of proposing below. The enterprise of our shore is much excited at this moment, upon agricultural improvement generally; and many of our best farmers, upon both sides of the peninsula, feel themselves forcibly attracted to the reclamation of their marshes. In this state of the public feeling, it is important that sound and useful information should be extensively diffused, and the subject minutely explained, in order to prevent that discouragement and dangerous langour, which would be occasioned by a few unskilful and abortive attempts. If I may be permitted to form a judgment of the laudable interest you feel in the progressive improvement of our country, in the arts of correct husbandry, from the honourable testimony of your late labours, now before me; I am sure you will cheerfully devote a portion of your time and talents repeatedly to solicit the communications of detailed plans, and information from those who are experienced in the operations of embanking marsh lands.

Delaware and Pennsylvania, on their Atlantic sides, contain intelligent men upon this subject, whose remarks would enrich the columns of your useful paper, and confer an essential obligation upon many of their countrymen. It is a subject of great astonishment to me, that so distinguished an agriculturist as Judge Peters, should have neglected this important source of a farmer's wealth: especially as his superior talents, and the enchanting style of his writings, are so well calculated to render every thing he obligingly communicates to the public particularly interesting. The scarcity of winter forage is no where so terribly felt, and so loudly complained of, as in the maritime parts of your state, and those south of Maryland; and yet few situations are capable of being more abundantly supplied with this valuable article, were common exertions made to obtain it. The deplorable consequences of this evil are continually presenting themselves in the scanty crops of their impoverished farnis, and in the mortifying spectacle of poor and miserable cattle, and even horses,—which disgraces our farm-yards, our fields, and our humanity, during every successive spring; and yet with mysterious infatuation, we fold our arms in sluggish inactivity, and permit the next recurrence of that genial season, to bring with it the same wants, and the same distresses. The present, if I am not deceived is a propitious period to spread widely among us a remedy, and an effectual one too, for these grievances. The adoption of some measures that would increase our meadow grounds, forms the greatest desideratum in our system of farming. Without long forage in greater abundance, as well as a better supply of exclusive summer pasture, we will in vain look for any material resuscitation of our worn-out lands. I am not attempting to add any excitement to your ardour upon this subject; I do not think you require it: the description, you know sir, is but too faithful, and the occasion but too common also, not to have repeatedly moved your observation and your regret.

22d. Sept. I had progressed thus far yesterday, in the recess from field exercise, which a storm afforded. To-day presents a gloomy contrast. What a dependent and short-sighted creature is man! This is an exclamation in the mouth of every reflecting

man, and almost of every unreflecting man too, upon the sudden and unexpected incursion of disappointments. At this moment I am but too well justified in its use. Yesterday my expectations were triumphant—my lately constructed banks, appeared a tight and perfect barrier to the highest tide I had witnessed since my settlement upon the eastern shore of Virginia, a period of sixteen years. To-day, by a continuance of the most tremendous north east tempest I ever saw, my banks are completely covered with water, from 12 to 18 inches over their summits; the marsh within, besides many acres of my best reclaimed grounds, well set in timothy and clover, inundated upwards of two feet with salt water; and the whole threatened with total ruin. I am greatly discouraged, it is true, and I have reason. The florid promises of a summer's toil are blasted in a moment, but I will not abandon an enterprise so valuable and praiseworthy. I could boast neither of patience, nor fortitude until the slow, and sometimes uncertain operations of husbandry improved both. I subscribe heartily to the truth of Tully's remark, "agricultura proxima sapientiæ;" such at least has been my experience of its moral influence. I will, therefore, prosecute my inquiries in the occasional intervals of reflection, that I may snatch from the distressing scene of desolation that surrounds me.

First.—Have reclaimed marshes succeeded in the production of artificial grasses, where not more than 20 or 24 inches of fall could be commanded at any time; and where during the prevalence of particular winds which maintain an unusual and protracted elevation of the tides, not more than half that fall can be had for several days in succession.

2nd. Have reclaimed marshes been made valuable for grass, whose surface consists almost entirely of a mass of fibrous roots to the depth of 8 or 9 inches; and if so, was the turf paired off and burnt, or was it permitted to undergo a gradual decomposition, after the natural grass was destroyed?

3d. In grounds thus covered with turf, has the plough been used to prepare them for the reception of grass seeds; or has it been found sufficient to tear the surface with harrows, and then to sow the seed.

4th. May it not be received as a tolerably correct standard, by which to ascertain the value of marsh soil, that the nearer it approaches to a pure, blue mould, or, in other words, the shallower the superficial stratum of roots, the better it is?

5th. In reclaimed marshes, whose situation does not admit of any permanent current of fresh water through their ditches, and where, of course, during periods of drought similar to that of the late summer, the salt water which passes through the sluices, occu-

pies the bottom of their ditches in an undiluted state, will grasses succeed?

6th. Are there any sluices or trunks, with valves opening towards the salt water, so tight as not to admit some salt water?

7th. What is the best plan of their construction?

8th. Has it been observed, that when high tides prevail several days in a dry time, and when the excavations, so common upon the surface of many marshes, are laid dry by the evaporation of their water, that an oozing of salt water takes place through the deep fissures made by the sun in the mud of their bottoms, so as sometimes to cover them 2 or 3 inches deep, in the lowest parts?

9th. Does not the mud upon the outside of all banks receive deep fissures, whilst their moisture is evaporating by the heat of a summer's sun?

10th. Is it common or necessary to fill up these cracks with additional soft mud plastered over them, or are they permitted to fill up by the gradual pulverization of the mud on the surface by a winter's frost?

11th. What length of time will be required, where the banks and sluices are completely tight, to freshen and prepare very salt marsh, for grass seeds?

12th. Will this process be accelerated by loosening the surface with a plough; and has this operation been tried?

13th. At what distance apart are the interior draining ditches usually opened in marshes not boggy, or even soft upon their surface; and what are the common dimensions of such ditches, esteemed effectual, and sufficient for the purpose they were intended?

14th. Are not small superficial drains of an angular shape, like the ditches, one foot wide and 7 or 8 inches deep, very serviceable in grass lands made upon marshes?

15th. In what manner do the most approved bank-builders, dispose of their superficial soils in embanking a marsh, whose surface is composed of turf?

16th. Is it necessary in very solid marsh, to allow more than 4 or 5 feet, from the edge of the ditch to the commencement of the base of the bank, which is not required, from its situation, to have more than 8 feet base and 4 feet elevation; especially when the water upon the outside is perfectly salt, and no muskrats apprehended?

17th. Is it not invariably improper to open two ditches, one on each side of, or near to, the bank? Or, in other words, is it not better to obtain the mud, with which the bank is constructed, from a single exterior ditch?

18th. Do the artificial grasses in reclaimed marshes upon the sea-board, invariably perish when inundated accidentally for 6 or 8 hours by salt water, very little diluted, where little or no rain has fallen to saturate

the earth with fresh water, immediately before such casualty?

19th. Are not grasses considered essentially the growth of fresh, unsalted ground, much more capable of sustaining life and vigour after such inundations of salt water, than is generally imagined, especially in old meadows having a condensed growth of timothy?

20th. Is there any one of the artificial grasses, endowed in a superior manner, with the power of resisting the injurious effects of salt water?

21st. Is it not much more difficult and hazardous, for these reasons, to attempt the reclamation of marshes situated immediately contiguous to the water of the ocean: and do not breaches frequently occur in banks from violent tempests, or from the perforations of muskrats?

22d. Is not salt water frequently admitted through the valves of the sluices, which are prevented from closing by extraneous bodies being occasionally lodged in them?

23. What precautions are found most effectual to prevent these accidents?

24th. What meadows have been inundated by the late violent tempest? Were their banks broken down, or did the water overflow, without destroying them?

I would add some other queries upon which information would be desirable; but I have already committed an unpardonable trespass upon your patience. Please make an effort to bear with this, as well as the privilege I have assumed of, perhaps too familiarly, communicating some incidents most necessarily required by the subject. Oblige me by publishing the whole, or a part of the above queries, after making such alterations and amendments, as your judgment may point out. I am, with great respect,

Your friend and obed't servant,

T. H.

P. S. 23d. Sept. The wind shifted about sun-set yesterday evening to east, and afterwards to south east, with a violence that amounted to a hurricane. Thousands of our best trees are blown down, and vast quantities of fence totally lost. The tide arose, during the night of the 22d, to the unexampled height of 14 feet upon our marshes. The miserable inhabitants of our islands, are reduced to a state of the most wretched indigence and destitution, by the destruction of their corn, cattle, sheep, and fences. Most of our coasting vessels are ashore.

FOR THE AMERICAN FARMER.
DOMESTIC INDUSTRY No. 6.

Baltimore, October 23, 1819.

MR. SKINNER.

That our conduct, as rational beings, should be adapted to the circumstances in which we are placed, is a truth too obvious to

require any proof; yet we are such beings of habit, that we seldom conform to new circumstances, till compelled by necessity. For a long period after the first settling of this country, agriculture was the primary object of labour; it being indispensibly necessary for the support of the inhabitants; and for many years after, the produce of the soil had become more than sufficient for the home consumption; foreign markets afforded a better return for the products of agricultural labour than for that of any other. So long as this state of things lasted, it was the duty of the United States to encourage husbandry beyond all other arts. A great change, however has now taken place. The vast extent of cultivated lands; the fertility of the Western soil and the progressive improvements in agriculture, have created a produce far beyond the domestic consumption: and as other countries are progressing in like manner, we cannot expect a profitable foreign market, except when unfavourable seasons, or a state of war may produce a temporary scarcity in some of them. Such circumstances have happened, and no doubt, will again; but surely they never should be made the basis of any permanent calculation. The labouring class of our population is therefore manifestly too great to be advantageously employed in agriculture alone. It must of course either continue to labour under an increasing disadvantage;—a part of it go idle; or get to some other employment. The first would augment our present evils: the second would be still more intolerable; but the third would have a direct tendency to remove our present embarrassments. We have seen what thousands, and hundreds of thousand, are supported in other countries by working up our raw materials; and also what millions of dollars are drained annually out of the United States to pay them;—to enrich their masters, and support their government.

Our circumstances having thus changed, our conduct should change also; and the mode in which that change should take place, was never more obvious to any nation, nor more easily effected. But, as has been observed, we are beings of habit; we frequently acknowledge our errors, at the very time when, from custom, we are committing them. Be it so;—*necessity* will correct what *reason* cannot, and the correction will be severe in proportion to our obstinacy. I know not whether our merchants are yet convinced that carrying away the wealth of their own country, is a trade that cannot last for ever: or whether they have found by their Legers, that raw materials will not balance the account of manufactured ones: but a series of voyages, on which the loss is from ten to thirty-three per cent., and importations which sell twenty-five per cent. below cost, will teach them a lesson on this subject. I hope, however, that our agricultural interest; that

basis on which the independence, the prosperity, and the real wealth of every nation must depend, is already sensible that a different system of domestic economy must be adopted.

Yours,

COGITATIVUS.

FOR THE AMERICAN FARMER

Flintshire, Carolina County, Va.

MR. SKINNER,

SIR—I am really rejoiced to see the great interest taken by the farmers, in my part of the country, in your paper, and also to learn from the many valuable essays, which it brings to us from various quarters of the Union, that the people of our country have at length began assiduously and earnestly to cultivate the most useful of all sciences, that of agriculture.

Husbandry has been every where exceedingly tardy in its progress toward perfection; although it seems to have been the first, and most alluring of the arts, by which man has been attracted from the savage into civilized life. The blessings the healthy pleasures, and the proud independence of the farmer, have been the themes of praise, as well by poets as by philosophers in all ages; yet it is singular, that the art of husbandry, a science, should have lagged so long behind all others, and should be even at this day, little advanced from what it was, "when the rural Maro sung" of the cares and the delights of the agriculturist.

The slow progress made in improving the art of tilling the earth, I have thought, has been owing to two causes. First to the impatient headlong avarice of our nature. This, one of our propensities, has been rather cherished than checked among our fellow citizens, by the peculiar situation of our country, since the final settlement of its independence up to the present period. For some years past, the minds of the people have been diverted from the science of agriculture, by the political circumstances of our times. The vast channels of foreign commerce, which have so profitably invited our citizens abroad, are now very much narrowed or entirely closed. Political events, which it is needless to consider, and against the discussion of which your paper has been properly shut, have given to the winds the whole tribe of fantastical schemes, by which speculators realized thousands by a lucky draft, or hundreds of thousands by a fortunate voyage.

The second cause of the slow progress of the science, has seemed to me to arise chiefly out of its own nature. The husbandman must wait upon, and observe the seasons. His life is limited to a span, while the diversities of soil, and the annual changes of climate and vegetation, are infinite. The principles of vegetation are covered with a thick veil; and the effects, which can be noted only from year to year, afford but obscure indications of the nature and operations of these principles. It is impossible for a single individual to collect within the compass of his few years of observation, many or very accurate and profitable agricultural experiments: because for each one he must wait until "nature rolls round the seasons of the changeful year." Hence the great delay in making agricultural experiments.

To surmount this procrastination as far as practicable, it is necessary that cultivators should *confederate*, and make common cause in searching out the ways of Nature in her government of the vegetable kingdom; that they should adopt some *clear and exact* mode of communicating to each other the result of the few accurate experiments which each one shall be enabled to make.

In chemistry, which is the kindred and analogous science to agriculture, philosophers have found it essentially necessary to adopt uniform terms and phrases; which convey the same ideas and are alike intelligible every where. In their analysis of air, vapour, water, &c. they have adopted definite

terms, which convey to every one, in the most perspicuous manner, the idea of the objects spoken of, so far as their natures have been ascertained. And in treating of the external structures and appearances of minerals they have carefully explained, in the outset, what they understand by certain specified colours, densities, and the like, by references to some universally common natural objects.

Thus they define colours, "*ash gray*, the colour of well burnt wood ashes; *lead gray*, as gray with a little blue and metallic lustre," &c. &c. Without this apparently tedious and unnecessary nicety, in the explanation of experiments, and the description of objects, it would have been impossible for the chemist of France to have been of any service to the chemist of England, or for the two to have united in promoting the progress of the science.

The unimproved state of agriculture, after so much labour has been expended on it, and so many volumes have been written on the subject, may be attributed in a great degree to the want of perspicuity, and accuracy in describing experiments, so as to enable other agriculturists, in other situations and circumstances, to test their utility by repeating them, or to profit by the useful principles which they suggest or develop. Every one who has read a treatise on Husbandry, or attempted to follow any of the courses they recommend, must have observed how exceedingly slovenly and unexact the subject is treated, and have experienced many failures in pursuing, as he thought the precise line marked out, owing to causes which he could not comprehend, but which would have been perfectly clear, had the experiments attempted to be followed have been more *minutely and exactly described*.

I would propose, therefore, that each Farmer should make an exact report, for publication, to the Agricultural Society of which he is a member, or to the American Farmer, or to some other paper having a general circulation, in the following form, or in any other manner which may be considered more *exact and perspicuous*.

[FORM OF A REPORT.]

No. 1. *The size and general character of the Farm from which the Report is made*

It contains two thousand acres, situated in the upper end of Caroline County, and is bounded on one side by the river Rappahannock. Four hundred acres of the tract are in wood, and the growth is chiefly red oak and hickory, some pine, with an under growth, in the low places, of huckleberry, and, on the higher grounds, dogwood and hickory sapplings; red cedar grows in abundance wherever it is suffered to spring up and remain. The whole tract, except the woodland, is enclosed by wattling, worm and straight rail fencing, such as is common in the neighbourhood. The arable land is divided into three shifts or fields, and four lots of about ten acres each. The arable land next the river lies gently waving or nearly level. The soil is silicious, that is, composed of much flint sand, with a mixture of dark mould and red clay, which gives it a mahogany colour when moist or wet. On digging graves or post holes, it has been observed, that the soil is of the same composition for four or five feet deep. It is not plashy or retentive of water on the surface, either in winter or summer; yet it sustains its crops during drought as well or better than argillaceous, or clayey soils in the vicinity, which is thought to be owing to its loose, porous texture, that permits the previously absorbed moisture to be attracted to the surface by the heat of the sun.

No. 2. *An account of a crop of wheat raised in the year 1819, (1) half a mile from the shore of the Rappahannock river, in the upper end of Caroline County, Virginia.*

Dr.	\$	By	\$
(1) To rent of 10 acres	00		
(3) To following	00	00 bush. of clean wheat	
(4) To 10 bushels seed		at \$00 per bush.	00
wheat . . .	00	00 bush. tailings	00

Dr.	\$	By	\$
(5) To ploughing for sowing	00	00 ox cart loads of chaff	00
harrowing	00	00 do. do. straw	00
(6) cutting & gathering	00	Gross product	\$00
(7) cleaning	00	Expense	00
(8) delivering or sending to market	00	Neat profit	\$00
Total expense	00		

NOTES.

(1) This crop was sown on the day of and cut on the day of . During that time there fell inches of rain,* and inches of snow, with which the ground was covered days. The average heat of April was degrees of Fahrenheit;† of May degrees, and of June and July degrees. There were no very remarkable or great transitions from heat to cold, or the reverse, from April until harvest: nor were there any heavy driving rains, or strong blasts of wind in that time, which might have caused the wheat to fall and lodge.

(2) The soil of this ten acres is silicious, or sandy, &c. as described in No. 1.

(3) This fallowing was made on the day of . The soil was turned up by a strong barshare, which cut about inches deep.—From the time the fallowing was done, until the seed was committed to the earth, there fell inches of rain.

(4) This seed was of the first quality eastern shore of Maryland white wheat, weighing 62 lbs. to the bushel; a sample of which was preserved and compared with the product, which had fallen off very much in appearance, and in reality, for it weighed only 57 lbs. to the bushel.

(5) This ploughing was made by a common barshare, and turned up the soil well pulverised, and free of lumps, clods, roots, and weeds.

(6) The crop was cut by a scythe and cradle, and was gathered and carried at once under cover, without being shocked up in the field.

(7) The cleaning was performed by a machine invented in Orange county, Virginia, and generally used, and much approved of, in that and many of the neighbouring counties. Its operation is to separate the wheat and chaff from the straw completely and effectually, and with great ease and rapidity. The wheat is then separated from the chaff and cleaned by the common fan.

(8) The crop was delivered to the purchaser at a landing on the river, half a mile from the barn.

No. 3. An account of a crop of clover raised in the year 1819, one mile from the river Rappahannock, in the upper end of Caroline county Virginia.

* Rain gauge for this purpose, any tin or metal vessel, the side of which are exactly perpendicular and the bottom flat, may be used—a wooden vessel might absorb a considerable portion while the rain is falling.—Such a vessel placed in the open yard or field, clear from any droppings of the trees, or house and measured immediately after each rain is over, will give the quantity or number of inches of rain, that falls in any given time.

† The cost of a common Fahrenheit Thermometer is 8 dollars to 12 dollars—it should be fixed steadily, in a dry shaded place, not exposed to strong currents of air or to artificial heat.

[A similar account may be made of a grass crop to the foregoing one of wheat, with this difference, that as the putting of it down will cost as much or more, in some cases, than other crops, and but very little to keep it up for several years; therefore the total cost of the labour bestowed on grass lands, for the number of years it will continue to produce good crops without breaking up the soil, should be summed up, and the annual average only charged to each year; as for example, suppose the whole cost of labour bestowed on a clover lot, including the preparation for sowing, for the support of the grass for four years to amount to forty dollars, the crop of each year should be charged with no more than ten dollars for cultivation: in other respects, the account and notes may be thrown into the preceding form.]

To make an exact estimate of the clear income derived from a tract of land, the farmer must draw up an account, in addition to those of each of his crops made out according to the foregoing forms in which all debits and credits, of rent, &c. not included in those accounts should be entered; and in which one third of the stock reared may be credited, or such other proportion of stock as is equal to that portion of support, which the stock derives from the pasture and uncultivated lands, thus:

No. 4 An account of the profits of a farm, the size and general character of which is as described in form No. 1, three hundred acres of which were in cultivation or produced a crop in the year 1819.

Dr.	\$	Cr.	\$
Rent of 1700 acres	00	Wheat crop	00
Fencing	00	Corn crop	00
Repairing houses	00	Grass crop	00
Cleaning ditches and mending roads	00	Stock	00
Incidental charges	00	Garden Stuffs	00
Total expense	\$ 00	Gross amount	00
		Expense	00
		Clear income	\$ 00

According to these forms, or such others as may be deemed more perspicuous, a farmer may make a report of any given portion of his wheat, corn, or other crop, taken from one, two or more acres, as an example of his system of husbandry, or of the experiments he has made, or he may thus make a report of his whole crop, provided the whole has been carefully observed and measured.

The form of an account seems to be best calculated to give, at a single glance, a clear view of the profits to be derived from the soil and cultivation described. And in the form of notes to such an account every particular should be as carefully, and as distinctly set down and explained as possible. The year when, and the place where, the crop grew should be noted with as exact an account of the weather, as can be had, from the time the seed was committed to the earth until the crop was gathered; that the effects of climate and season may be judged of. An exact description of the nature of the soil on which the experiment was made, should be carefully noted; because we know, that almost all vegetable operations are controlled by the united effects of soil and climate. As the object of cultivation is to aid the beneficial effects of soil and climate, the quantity and nature of the manure spread upon the land, should be noted; and also the ploughings, &c. both as to time and manner. The nature of the seed, as well with relation to its own quality as compared to its product should be noted: so that we may be informed whether it has improved or deteriorated, and set upon

inquiring into the causes. The manner of cutting, gathering, and cleaning, should also be mentioned, that others may judge whether any thing has been lost, or whether the cheapest and best methods have been used. In making the charges of rent, and the price of labour expended in ploughing, &c. the rent should be estimated at what is actually paid, or at what might be deemed fair and reasonable in the neighbourhood for such land and the cost of cultivation should, in like manner be set down at the prices actually paid, or, if done by the farmer's own slaves, at the price for which hirelings could be had in the neighbourhood to do the work, taking care to include in the estimate, man, team, and implements. The cost of delivering the crop; and the distance which the cultivator is obliged to send it to market, should be noticed; that an opinion may be formed of the relative advantages of the situation of arable land.

In crediting the products, the farmer should not only bring into the account, the clear merchandiseable portion of the crop, but every portion of it; as well that which is fit for provender for stock, as that which can be applied to no other use than manure. The farmer should accustom himself to set a value upon every portion of the product of the soil, as a part of the return for the labour, which he has bestowed on it. Nothing is more common than to let the chaff of the small grain blow away, and to leave the corn stalks in the field to waste, instead of converting them into manure, the only purpose for which they are fit. But the provident farmer will recollect, that a load of chaff or stalks will make him a load of manure, which when spread on the land, will be equal to two dollars worth of Plaster of Paris, and that if he neglects to make such use of it, he does as clearly lose two dollars, as if he had lost that value of clean grain.

As there may be some difficulty with Farmers in measuring their grounds and fields, which they have set apart as portions of their cultivation to be reported of, I will take the liberty of suggesting an easy and exact method of measuring grounds, without the help of a surveyor's instruments, which are only necessary when the contents of a very irregular shaped plat of land is required to be ascertained. Let a pair of compasses be made, and braced so as to represent the letter A, the top angle of which, when standing upright, to be about breast high, and the legs to stride exactly six feet.—With such an instrument, made so light as to be twirled round with ease, from foot to foot, and the stride counted as the measurer walks along, any square piece of ground may be measured as accurately as by a chain and compass, by thus striding off the two sides with these wooden compasses, and multiplying the one side by the other, and then dividing by the number of square yards in an acre.*

I have been induced to offer these suggestions to my brethren of the clover, in the hope that they might thus be invited to the adoption of accuracy, perspicuity, and method, the utility of which are so very obvious, and which are so indispensably necessary for the further and sure improvement of us all.

F. T.

* The length of two sides of a lot of ground being ascertained, to find the contents of the lot multiply one side by the other the result is the contents in square feet or yards. Thus a lot of ground which measures one hundred yards, or fifty strides of this compass one way, and two hundred yards or one hundred strides of this compass the other way, contains 20,000 square yards.—This is the result of 200 multiplied by 100.—This method may be used to ascertain the contents of any sized lot, the sides of which consist of lines at right angles. As some of our readers may have forgotten their land measure table, we here give it from old Dilworth, and hope they will pardon us for presuming them to have so soon forgotten an old acquaintance.

LAND MEASURE.

The denominations of this measure are, acre, rood, square perch, square yard and square foot.

9 square feet make	1 square yard
30½ square yards make	1 square perch
40 square perches make	1 rood
4 roods	1 acre.

Agricultural Experiments,

Made on the Potomac—upper end of Westmoreland county, Virginia, in 1792.

First. Planted 20 hills in hill corn, at 6 feet square distance, in a piece of light sandy land, so poor as not probably to have exceeded a peck to a thousand. On this is put 10 bushels of unsalted meal. The first of October gathered 136 ears, 3 bushels, which seld 13 quarts, 1 pint of corn, equal to 4 barrels, 30 quarts, and 1 pint to the thousand, or 25 bushels, 17 quarts, and 2 pints of meal. Five hundred of meal seld 4 1-2 lbs., and 3 bushels weighing 1 1-4 lb. right from the top, seld together equal 282 1-2 lb. to the thousand or as 8 1-4 1-2 p. per acre.

Second. Gathered the first day of October the corn 20 hills planted at 4 feet square distance, 2 stalks each hill, in tobacco ground, from which a crop of flax had been taken the year before, 41 ears, 4 bushels, produced 15 quarts and 1-2 pint of corn, equal to 4 barrels, 30 quarts, 24 quarts, and 1 pint per thousand, or 63 bushels, 18 quarts, and 1 1-2 pints per acre. Five hundred of blades, weighing 4 lbs., and 3 bundles of top blades weighing 1 lb. 6 oz. together equal to 268 3-4 lbs. per thousand, or 775 3-4 lbs. per acre.

Third. Gathered first of October, the corn from 20 hills of common field, adjoining the tobacco ground, planted at four feet square distance, 2 stalks in each hill, 38 ears, 2 bushels, produced 7 quarts 1 pint, equal to 2 barrels, 1 bushel, 23 quarts per thousand, or 53 bushels, 26 quarts, and one pint per acre. Two hundred of blades, weighing 2 1-4 lbs., and one bundle of top blades, weighing 10 1-2 oz., together equal to 145 lbs. 2 oz. per thousand, or 419 1-2 lbs. per acre.

Fourth. Twenty hills planted as above, in the same ground and immediately adjoining the last mentioned, putting into each hill at planting one gallon of farm yard manure; produced 40 ears, 3 bushels, and shelled 15 quarts of corn, equal to 4 barrels, 3 bushels, 14 quarts per thousand, or 67 bushels, 21 quarts per acre, and 4 bundles, weighing 4 lbs. 3 oz. of blades, and 2 bundles weighing 1 1-4 lbs., top blades, together equal to 271 lbs. 2 oz. per thousand, or 785 lbs. per acre.

Memorandum.—From the fourth experiment the corn in safe preservation to be measured the first of March, thereby to determine the shrinkage.

The corn was dried previous to its being measured as above; and some of it ground at the mill two days afterwards, and the fodder in an arid state.

The tobacco ground corn failing in spots, in the month of June, during a drought, one gallon of rich swamp mud is chopped in, round each hill; after the first rain its effects were very obvious, and the corn which had shown great a disparity and backwardness, yielded equal to the other, as in experiment *Second* above.

Memorandum.—The above-mentioned corn, viz. experiment *Fourth*, was measured the first of March, and the shrinkage found to be the third; there remaining 3 quarts, equal to 3 barrels, 1 bushel, 2 quarts per thousand, or 44 bushels, 2 pecks, and 5 quarts to the acre.

For the American Farmer.

On the Art of Making and Bottling Cider.

Elmwood, Oct. 25, 1819.

Mr. Skinner.—A glass of good cider now sparkling fire me, brings to my mind your request, to be informed of the best method to bottle cider. I have had the satisfaction to furnish my table for 18 years with that article, without any material interruption, having some ways of two years bottling on hand.

It would be needless to detail all the experiments I made to save my bottles; however, I will relate two that were very promising, which will show that nothing is than raising the proof of the cider will answer.

Experiment 1. I bottled cider of fine quality in February with the best of corks, and removed it to the cellar; after the bottles were filled, they were placed in tubs of warm water, and raised to full summer heat, and then corked.

Experiment 2. Considering that good corks would be to stop the air in the neck of the bottle, before they

were well driven in, and that a portion of air would be condensed, and therefore greatly endanger the bottles, when the temperature was increased, I procured perforated corks and after they were driven in, stopped the perforations, with pegs and sealed all over.

Neither of these probable experiments were effected; very hot day was announced by an explosion in the cellar. Giving over every stratagem, that had not an alteration of the liquor in view, it occurred to me that wines did not must their bottles, and that cider was only a low wine, and also recollecting that small beer was both the weakest and most violently fermentative of all common drinks, I resolved to raise the proof of my cider, by the addition of two teaspoons of French Brandy to each bottle. Since which I have had no more explosions nor broken bottles, and the cider is improved by the addition. Plums or cherries, so much used, must have the same effect, i. e. to raise the proof; for it is only necessary to add a large quantity of either to make cider into good wine, that will flash in the fire; my method is to get cider made late in October or in November, from seeds reaks, Catalins, or Madensolish. In December I put an ounce of singlass to each 50 gallons, and bottle it in February. If the singlass is put in later, it will deposit some sediment in the bottles. It is to be dissolved by chipping it into fine pieces, and placing it in a covered mug with a quart of cider for ten hours or more, in a very warm ashes heat, about as much as we use to draw tea—a little scalding of the corks. At the moment they are to be used, cut off the stem, so that they will fit better and be more readily driven in.

But it would be needless to expect cider to be made good by bottling, it must be pure and well flavored whilst in the cask; and, therefore, the subject necessarily involves cider making, on which you have many excellent papers. From what I understand of the making of cider, it appears that the later the apples hang on the trees, the more powerful will be the cider; hence the cider of France and other temperate countries, is said to be more powerful than ours; our summer apples, therefore, would not make good cider for bottling, because of their quickly arriving at perfection.

The cleaning of the liquor from the pumice is the main thing, when good sound late apples are used. It appears that cider made from sweet apples is much more apt to abound with pumice, whilst the acid and ascerb retain their pumice in the press, hence some very bad eating apples make excellent cider. The attention to this subject, i. e. the defecation is all important, especially the first separation, for if the first is well timed and complete, the future fermentations will be moderate and the racking effectual. Blankets have been used with success to get off much of the pumice; they should be spread on the bottom of a flat basket, and that placed on the head of the cask. All strainers will require often washing out, and therefore two or three are necessary, all of which may be made from one stout plank. But I am satisfied that a few hair sieves of different fineness, with the coarsest uppermost, placed under the run, would separate great quantities of pumice; they would also require shifting with a second set, and constant attendance to wash them out; the size of grain sieves would answer, after these the bluest strainer would render the cider so pure, that the fermentation would be gentle and easily managed for racking, so that the first racking and the singlass would finish the filtering.

Your's,

SILVANUS.

P. S. Some persons are very much pleased to see cider rush out of the bottle like small beer, they think it strong; if they bottle it themselves they will find them mistake, and like me, be better pleased to see a kind of sparkling fervor, like the wine of Solomon, "that moveth itself aright."

To the Editor of the American Farmer.

SIR,

I have just observed in your paper of the 15th instant, a communication from a correspondent in Lexington, Va. upon the subject of fining and bottling cider. Stating therein, that "the best he ever met with, was some years ago at the Indian Queen, which he understood was bottled by a Mr. Hillen about 10 miles from that place." As no other person by the name of Hillen at that time, sold cider in the neighbourhood, I take it for granted

that I am the person alluded to. But, sir, there must either have been a mistake, or misapprehension, as to the bottling. I never bottled any for market, but have frequently supplied Mr. George Benner of Baltimore, with cider by the quantity for boiling, and have no doubt but Mr. Benner has occasionally furnished Mr. Evans, the then landlord at the Indian Queen tavern. Were I to attempt a word of advice to your correspondent on the subject of making cider, it would be to avoid all rotten fruit, leaves, &c. pick up his apples as early as possible of mornings, when cold, or, at least cool, and grind them so; when ground and expressed, strain it through a sifter into a large trough or cistern, let it stand about 2 or 3 hours until the fine sediment falls to the bottom, then rack it off into clean casks and let it stand and work until the foam begins to dry at the bung-hole; then fill the casks up with cider of the same quality, and stop them as tight as he can with straw bungs, or, if wood bungs, they must have ventilators for fear of bursting. When they become perfectly dry at the bung-hole (if straw) drive a sharp plug into it to exclude the air; in November rack it off through flannel into clean casks again, and let it stand till spring for bottling—I am not sufficiently acquainted with bottling to offer any advice as to the best mode.

Yours respectfully,

THOMAS HILLEN.

P. S. Sir, it seems that Farmers, as well as Doctors may differ in opinion.—I observed in one of your papers a few months ago, that one of your correspondents had written in commendation of ripplegrass, ribwort, or, (as I think he termed it) ribbed plantain. Should the gentleman's crop of this article fall short next year, and it were possible for one to transmit him all my share by mail, I would most cheerfully pay the postage. T. H.

FOR THE AMERICAN FARMER.

Rapid Culture.

Baltimore Oct. 15th, 1819.

Dear Sir.—Having observed the notice taken of an extraordinary corn stalk of Mr. Townsend of Pen Yan, which was produced in the short space of ninety-two days. I take the liberty of stating, that on the fifth of June I planted about an acre of corn on a spot of ground considered very poor, and which had been but imperfectly broken up a few days before. In the first week of August I had the pleasure of eating some fine "roasting ears;" the produce of this corn being about sixty days from the time of planting, many of the stalks had at that time attained the height of eleven feet. This production in a season of unusual drought on land proverbially poor, and planted at the commencement of the hottest and dryest portion of the season, has far exceeded my most sanguine expectation, and has been doubly gratifying in being the result of an experiment made with my *fertilizing compost*. The mode of planting was by mixing with the manure half a peck of compost to each load, and then mixing an equal bulk of the earth of the field with the manure (that is load for load,) after it was hauled out. Two shovels full of this mixture was thrown into the furrow for each hill, the corn dropped upon it, and covered in the usual way. The part of the field which I planted with manure alone, was deficient in size, and one row (about 100 hills) without either manure or compost, did not produce a single perfect ear, and the diminutive size of the stalks was a kind of burlesque on cultivated Indian corn. Three kinds of seed were used, viz. the white gourd seed of the Eastern shore, the large yellow corn of the uplands, and the common yellow corn of this county; against the former a prejudice exists in Baltimore county, and I was assured by some old

farmers. that with my late planting and poor land, I would not get an ear of it, notwithstanding it is as forward and more perfect, than the Baltimore corn, which I am inclined to think has been brought down to a dwarf by poor land, and poor cultivation; it is consequently premature, and imperfect in its formation; but it also escapes making a good crop. The frost is less to be feared than the use of poor seed. I have now growing a small square of Canadian corn, which was treated in the same way, and planted about the 2d of August. (an experiment for the second crop in one season,) the tips of some of the blossoms appeared in the beginning of September, since which I have not seen it, and circumstances have occurred to prevent me from pursuing that course of agricultural experiments, which I had contemplated. I have, therefore only the satisfaction of having produced the means of increasing the product and value of the soil, and must leave it for others to use them, with the hope that this communication may furnish some light on the culture of the single article of Indian corn.

A. B. MARLIN.

Baltimore October 30, 1819.

Mr. Skinner—I take the liberty of sending a few ears of the corn raised on the ground alluded to in my communication of last week. I send you one or two ears in the husk, in order to remark to you the circumstance of the corn growing entirely through the husk, and exposing the points of the ears to the weather and ravages of insects. I account for this, by the husk being formed at a very dry period, the corn afterwards received the benefit of a rain, which filled the grain so rapidly as to push it beyond the cover of the husk. I should by no means consider this corn remarkable unless connected with the circumstances of planting in June, dry season, poor land, &c. as before stated to you.

A. B. MARLIN.

Two distinct crops of water-melons were produced from the same vines, in a garden at Greenwich, Connecticut, this season. The second crop set about the time the first was gathered.

The machine [see below] for gathering the heads of clover, with a view to the collection of seed, is taken from a publication in Pennsylvania, where that matter is well understood; nevertheless we doubt its efficacy, as we apprehend the teeth of the comb would be perpetually choking, unless there be some method, which we do not perceive, of cleaning it as the heads accumulate.—*Ed. Am. Farmer.*

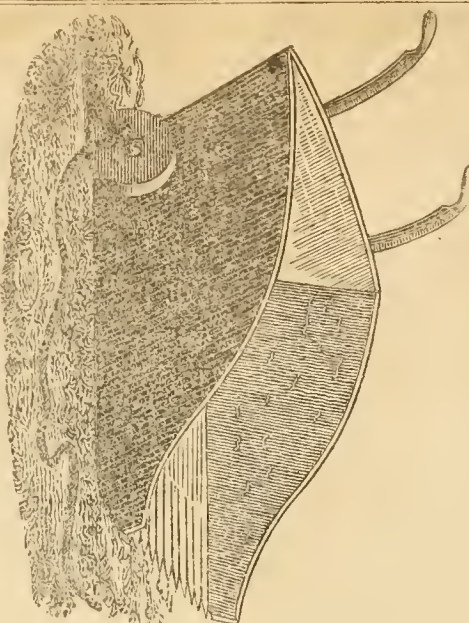
To the Philadelphia Society for promoting Agriculture.

Having recently seen an implement successfully employed in gathering heads of clover from which to procure seed, I could wish that the description and drawing, herewith transmitted, might be a mean of introducing it to general use, among our agricultural fellow citizens.

With a machine of this kind, a man and horse, can in one day collect the heads of clover from five acres of land; an economy of more than half the time necessary to obtain the crop, in the ordinary method; and in addition to that advantage, a field thus reaped, has left upon it the stem and leaves of the plant affording good pasture. Respectfully,

ROBERTS VAUX.

Burwood Lodge, 9th mo. 3, 1819.



Axle 3 by 4 inches, 4 feet 10 inches long, to accommodate two wheels of 6 inches diameter, upon which secure a comb made as follows: bottom, of inch oak, 3 feet 3 inches broad, 1 foot 9 inches deep in which saw 43 teeth 9 inches in length, flat in the top, tapered at the ends, and turned up below, resembling the fingers of a cradle. Back of the comb resting on the axle, 1 foot 6 inches high, supported by two handles similar to those of a plough; sides sloping towards the front, and to pass 3 inches below the teeth, and to be curved like a sled runner. To be drawn by a horse attached with chains or ropes which are secured at the ends of the axle.

P. S. Where, or by whom, the above described machine was contrived, I have not learned; the inventor whoever he be, has conferred a benefit upon husbandmen, and is entitled to their acknowledgments, especially those who farm on a small scale, and to whom pasture is important.

Extracts from a Compendious Dictionary of the Veterinary Art.

[Continued from No. 31, p. 246.]

BROKEN WIND. A disease to which horses are very liable, and generally produced by bad management either with regard to exercise or diet. As to the cause of broken wind, there have been various opinions: Gibson and Bartlett thought it was often brought on "by injudicious or hasty feeding young horses for sale, by which the growth of the lungs, and all the contents within the chest are so increased, that the cavity of the chest is not capacious enough for them to expand themselves in and perform their functions." Bracken says, "as the asthma in mankind, so a broken wind in horses is produced from thick mucilaginous juices in the windpipe and lungs." From the investigation of Mr. Coleman, it appeared that broken wind is caused by a rupture of some of the air cells of the lungs, in consequence of which the air gets into the cellular membrane. According to Mr. Richard Lawrence, "the most common appearance of the lungs in broken-winded horses is a general thickening of their substance, by which their elasticity is in a great measure destroyed, and their weight specifically increased, at the same time that their capacity for receiving air is diminished." I have examined the lungs of broken-winded horses without observing this general thickening of their substance; on the contrary, they have appeared specifically

lighter and larger than in the natural state. Two horses that were purchased for the purpose of making experiments, and so badly broken winded as to be useless, I particularly remarked. In the first, the lungs were unusually large, and there was evidently a considerable quantity of air in the cellular membrane, but it was not ascertained, whether this air had escaped from the air cells, or had been generated within the common cellular membrane of the lungs. The other horse was kept about a month in a field where there was no water and very little grass. When taken up, he appeared perfectly free from the disorder: he was however shot, and upon examining the lungs, they had not the slightest appearance of disease. About twelve months ago I purchased a horse completely broken winded, he had been for a considerable time the property of a gentleman who valued him highly, but his wind became so bad as to render him useless, therefore he was sold; the purchaser finding him incapable of working after a short trial, was glad to get rid of him for a small sum. He then fell into my hands. By allowing him only a small quantity of hay, sprinkled with water, giving cold bran mashies, mixed with a moderate quantity of oats, and only a small quantity of water, taking care at the same time that he had regular but moderate exercise, his wind became gradually better, and at this time he appears perfectly free from the complaint. These cases with several of a similar kind I have met with, seem to prove, that broken wind does not always depend on an alteration or disease in the structure of the lungs; but upon some morbid secretion in the branches of the windpipe or air cells, or perhaps from their becoming emphysematous. See Emphysema.

It is stated in Rees' Cyclopaedia, under the head of Broken Wind, "that after opening more than ten broken winded horses, the lungs were uniformly found emphysematous." This complaint is generally allowed to be incurable; but it may often be alleviated, and sometimes in such a degree as to be scarcely perceptible. Constant attention, however, is necessary with regard to his food, &c. which should be rather of an opening kind, such as bran mashies, with a quantity of oats proportioned to his work; green food may also be given in moderate quantity, or carrots. When ridden, his exercise should at first be moderate, and he should not be taken out immediately after feeding. I have seen small doses of diuretic medicine given daily, or every other day for a short time, so as to increase the horse's urine in a moderate degree, afford great relief; such medicines however, must not be given so as to cause and keep up excessive staling, as the kidney might thereby be injured. Horses that have but indifferent appetites either for hay or water, should be allowed green food; but in broken wind this is not often the case; more commonly they have almost constant thirst, and unless prevented by a muzzle, will eat even their litter. As far as my observation goes, this disease most commonly happens to horses that have such voracious appetites; whenever therefore this is observed, the horse should be limited in his diet; and if he shows any disposition to eat his litter, a secure muzzle must be employed. See Cough and Wind.

BRUISES. In severe bruises, bleed and give a purgative, and foment the part, or apply a poultice; should matter form, it is to be treated as an abscess; but if a hard callous swelling remain, an attempt should be made to disperse it by rubbing it well with some stimulating embrocation, such as—

Soap liniment, four ounces
Liquid ammonia, one ounce; or,
Camphor, } of each two drams.
Oil of origanum, }
Olive oil, two ounces.

Liquid ammonia, one ounce. Mix.

Should these embrocations fail, recourse must be had to a blister. See *Treatise on Veterinary Medicine*.

BULL, to make Cows take * A mischievous practice has been recommended by old Markham, and copied by Clatter and Skerrett, of giving for this

purpose half an ounce of Spanish flies, with grains of Paradise, &c. Surely common sense should dictate to every one, that the only safe and effectual method of accomplishing this end is to bring the animal to a perfect state of health and condition.

** Note by the Editor of the Farmer.*—It is said that if a bull find a cow tied fast by the head, he will take advantage of it to seize without her consent, favours which she would not have granted to his most earnest importunities. If that be the case, is of course practicable to ensure calves at any given season. We do not find this fact mentioned, however, among the curious experiments of Jacob on the flocks of Laban:

And he (Laban) said, What shall I give thee? and Jacob said, thou shalt not give me any thing: if thou wilt do this thing for me, I will again feed and keep thy flock:

I will pass through all thy flock to-day, removing on thence all the speckled and spotted cattle, and all the brown cattle among the sheep, and the spotted and speckled among the goats: and of such shall be my hire.

So shall my righteousness answer for me in time to come, when it shall come for my hire before thee: every one that is not speckled and spotted among the goats, and brown among the sheep, that shall be counted stolen with me.

And Laban said, Behold, I would it might be according to thy word.

And he removed that day the he goats that were ring-straked and spotted, and all the she goats that were speckled and spotted, and every one that had white in it, and all the brown among the sheep, and gave them into the hands of his sons.

And he set three days' journey betwixt himself and Jacob: and Jacob fed the rest of Laban's flocks.

And Jacob took him rods of green poplar, and of the hazel and chesnut tree; and peeled white stripes in them, and made the white appear which was in the rods.

And he set the rods which he had peeled before the flocks in the gutters, in the watering troughs, when the flocks came to drink, that they should conceive when they came to drink.

And the flocks conceived before the rods, and brought forth cattle ring straked, speckled, and spotted.

And Jacob did separate the lambs, and set the flocks of the flocks towards the ring-straked, and all the brown in the flock of Laban; and he put his flocks by themselves, and put them not unto Laban's cattle.

And it came to pass, whensoever the stronger cattle did conceive, that Jacob laid the rods before the eyes of the cattle in the gutters, that they might conceive among the rods.

But when the cattle were feeble, he put them not so the feeble were Laban's, and the stronger Jacob's.

And the man increased exceedingly, and had much cattle, and maid servants, and men servants, and camels and asses.

Law Intelligence.

The following case was tried about a month ago at the Marine Court, and exhibits a spirit of litigation for trifling objects, which is by no means creditable to a peaceful community. The time has been so far lost, and many law had many terrors, and various sacrifices have been submitted to rather than go to law, now the most trivial trespass and dispute are tried into court, and the time of judge and jury is profitably expended in attending to such cases. Information on this head is much wanted.

Reported for the National Advocate.

MARINE COURT, September 30, 1819.
Present, Mr. JUSTICE DRAKE.

Streitoff vs. Streit.
An action for taking out of plaintiff's field a heifer, and damages sustained thereon \$100.

J. ANTHON, counsel for plaintiff
G. WILSON, for defendant.

Anthon opened the cause to the jury, and stated that the present action was to recover from Streit, damage for taking out of Streitoff's field a heifer, which the said Streitoff claims as his.

It appears that some time since, Streit came to Streitoff's field in company with Jas. Madden, a constable, and cut the heifer loose, which was tied in Streitoff's field, and was about taking her away, when Streitoff demanded of him his authority for taking it, upon which Madden arrested Streit, fit on a warrant for fifty-six cents due Streit—a scuffle ensued, and the heifer taking an active part in the affair, bucked Streit down; Streit and Madden however succeeded in bearing the heifer off—Streit then sued the plaintiff in this case before Mr. Justice Flanagan, of the ninth ward, for keeping the heifer to his damage \$35. On this trial, there was examined on the part of the plaintiff, Streit, twenty-one witnesses, and on the part of the defendant, Streitoff sixteen witnesses. The jury gave a verdict in favour of the plaintiff, Streit, for \$6 56 cents.

The action now brought was to recover damages from Streit, for taking the heifer out of Streitoff's field.

Henry Streitoff being sworn, stated that the heifer in question belongs to his brother, the plaintiff, and that about six weeks since she strayed away and was missing about two weeks, when he found her on the road; he then cut her ear and brought her to his brother's field, and when she was there about one week, the defendant, Streit, came and took her away, and that in taking her away she bucked him down.

Cross examined by Wilson, counsel for defendant.

Q Mr. Streitoff—How do you know this heifer to be your brother's—by what marks?

A. By her having her right horn broken, a white spot on her belly, and because she was a very wild and bucking heifer.

Q Are you sure the heifer now in possession of Streit is your brother's?

A I am sure of it—I ought to know her, for I used to feed her every day, and many a time she has chased me to buck me.

The counsel in examining this witness, was very minute in his questions, which bothered the witness so much as to lead others to suppose he was intoxicated.

Q Streitoff—How many small glasses of rum have you drank to-day?

A. (By witness putting on a recollecting mood) I rather guess, sir, I have drank just about as many again as half.

Anthon. Properly answered.—(Loud laugh.)

By the Court. Mr. Wilson, it is quite unnecessary to ask the witness any such questions.

Wilson. You may retire Streitoff.

Streitoff. Thank you, sir—I'll get out as soon as I can, for I am as sober as you, or any one in court.

The next witness on the part of the plaintiff was his sister, (Mary Streitoff, a fine, large, fat country girl) who deposed that the heifer was her brother's, that she had raised her from a calf, and that she was a very wild heifer—had a white spot on the belly, and broken horn, &c.

Q. By Wilson. What was the colour of the heifer?

A. It was a brindle heifer, and looked like its mother.

Q. Was it as fat as its mother?

A. I do not think it was.

Q. How large was the white spot on the belly?

A. About the size of my hand.

Q. Where was the white spot?

A. Near the navel.

Q. Are you sure it is your brother's heifer?

A. I am sure of it.

The next witness was *George Streitoff*, the father of the plaintiff, who stated that he took the heifer from her mother at a week old, and gave her to his son—tho' it she is a wild bucking heifer, has a white spot on her belly, and a broken horn, &c.

Cross examined by Wilson.

Q Mr. Streitoff—Are you sure the heifer in question is your son's?

A. I am sure of it.

Q By what mark?

A The white spot on her belly.

Q Where was the white spot?

A Near the navel.

Q How far from the navel?

A Not quite one hundred yards, if I am not mistaken.—(Loud laugh.)

The plaintiff then produced about a dozen persons, who all testified she was his heifer—that she had a white spot on the belly, broken horn, and that she was a bucking heifer and that they had seen her very often.

Anthon here rested the case on the part of the plaintiff.

Wilson, on the part of the defendant, examined twenty-five persons, who all swore that the heifer belonged to Streit, that she was a very tame heifer, that they never perceived any white spot on her belly, that one horn was a little broke, and they were sure she was his heifer, and that they never knew Streitoff had a heifer of that description.

Mr. Justice Flanagan, testified that the cause was tried before him, and that he saw the heifer—that it was very tame, and he did not perceive the white spot on the belly. The counsel on the part of the plaintiff was very severe with Mr. Flanagan, and as the Justice thought that he knew more about law than the counsel he got a little angry, when the counsel told him not to ride quite so high a hobby.

The Jury then informed the court, that unless they saw the heifer, they could not agree in consequence of the very contradictory evidence which had been given. It was proposed to have her brought into Court—but, apprehensive she might buck them, the court gave the jury permission to visit the heifer; they accordingly proceeded in wagons, accompanied by the parties, to view the heifer, which was at defendant's farm, about four miles from this city. While the jury were examining the heifer, the plaintiff tried to make it buck, but it would not; for lo! it was a very tame heifer, and would not injure any one—the jury returned to court and gave a verdict in favour of the defendant. The trial lasted two days, and it appears that all the old men and women were trumpeted up for 10 miles around the country as witnesses. The costs of prosecution were six times the value of the heifer; and as the counsel for the plaintiff observed that as her value was actually about \$8, he had not the least doubt but that she could be valued at fifty dollars before the trial was over, for some swore she was worth, 8, 10, 15, 20, 25, 30 dollars—so little did they know about the value of bucking heifers.

THE FARMER.

BALTIMORE, FRIDAY, NOVEMBER 5, 1819.

It is quite notorious that the art of cultivating the soil and of preparing its products, for consumption, in the most advantageous and profitable manner, has been pushed to much greater perfection in some states, and even in some counties of the same state than in others. It is a consciousness of this fact, which has given rise to a very useful practice amongst the correspondents of the Editor. It is that of making inquiry, when they have occasion to write to him, as to the mode of doing any particular things in those districts of country, where they are known to have

attain the greatest perfection, in the matter inquired about.

These inquiries we throw into the Farmer, which circulates through every state in the Union, and there are not wanting gentlemen of sufficient politeness and public spirit, to give the information sought for.—Thus, for example, a subscriber at Annapolis intimates, that it would be useful to ascertain and publish, for the information of southern readers, the *New England method of cultivating onions*. By presenting his intimation to our New England subscribers, we were enabled in our last paper to present the minute and well prepared account, as detailed in the obliging letter of SIMEON FRANCIS, Esq. of New London.—Again, a correspondent at Lexington, Kentucky, desires to know the best method of *making and bottling cider*, and mentions some he drank many years since, made by MR HILLEN of this county. His desire was communicated through the Farmer, and accordingly in this number, he is presented, as we trust in the most clear and satisfactory manner, with every particular which is necessary to be known, in a most important and valuable branch of domestic economy, MR HILLEN, and the author of SYLVANUS, are entitled to the best thanks of our subscribers, and we have no doubt will receive them.

It is among the noble influences of agriculture that she opens the hearts of her votaries, and renders them benevolent and disingenuous. They have no secrets of trade, and are strangers to that heart-burning jealousy, which rivalry creates among the followers of other professions. They are always ready to impart, with honourable frankness and pleasure, discoveries which have been made by a long and toilsome course of labour and experiment—may such ever be the happy influence of the happiest of all vocations.

☞ We suppose it may be mentioned, as a singular fact, that, as far as we can learn, there is not at this time in all Baltimore, a single gallon of LAMP OIL for sale—we will agree not to dispute whether it be *whale oil*, or *fish oil*, so the gentlemen grocers will "give us but light."

MR. SKINNER,—Col. T. Tennant has imported a quantity of cotton in the seed, from Carthage. As this is generally fine cotton, and a wish is expressed to obtain seed, for our southern states, from South America—may it not be well to attend to this parcel, as it is very rare to receive it here uncleaned.

JAMES H. McCULLOCH.

Poor Richard's Almanac.

The way to wealth, as clearly shown in the Preface of an old Pennsylvania Almanac, intitled, Poor Richard Improved.

[Continued from page 248]

"Methinks I hear some of you say, "must a man afford himself no leisure?" I will tell thee, my friend, what poor Richard says; "employ thy time well, if thou meanest to gain leisure; and since thou art not sure of a minute, throw not away an hour." Leisure is time for doing something useful; this leisure the diligent man will obtain, but the lazy man never; for "a life of leisure and a life of laziness are two things. Many, without labour, would live by their wits only, but they break for want of stock;" whereas industry gives comfort, and plenty, and respect "Flv pleasures, and they will follow you. The diligent spinner has a large shift; and now I have a sheep and a cow, every one bids me good-morrow."

"II But with our industry we must likewise be steady, settled and careful, and oversee our own affairs with our own eyes, and not trust too much to others; for, as poor Richard says,
"I never saw an oft-removed tree,
Nor yet an oft-removed family.
That throve so well as those that settled be"
And again, "three removes is as bad as a fire;" and again "keep thy shop, and thy shop will keep thee;"

and again, "if you would have your business done, go, if not, send." And again,

"He that by the plough would thrive,
Himself must either hold or drive."

And again, "the eye of a master will do more work than both his hands;" and again, "want of care does us more damage than want of knowledge;" and again, "not to oversee workmen, is to leave them your purse open" Trusting too much to others care is the ruin of many; for, "in the affairs of this world, men are saved, not by faith, but by the want of it;" but a man's own care is profitable; for, "if you would have a faithful servant, and one that you like, serve yourself. A little neglect may breed great mischief; for want of a nail the shoe was lost, and for want of a shoe the horse was lost, and for want of a horse the rider was lost," being overtaken and slain by the enemy; all for want of a little care about a horse-shoe nail.

"III. So much for industry, my friends, and attention to one's own business: but to these we must add frugality, if we would make our industry more certainly successful. A man may, if he knows not how to save as he gets, "keep his nose all his life to the grindstone, and die not worth a great at last. A fat kitchen makes a lean will;" and

"Many estates are spent in the getting,
Since women for tea forsook spinning and knitting,
And men for punch forsook hewing and splitting."

"If you would be wealthy, think of saving, as well as of getting. The Indies have not made Spain rich, because her outgoes are greater than her incomes."

"Away then with your expensive follies, and you will not then have so much cause to complain of hard times, heavy taxes, and chargeable families; for

"Women and wine, game and deceit,
Make the wealth small, and the want great."

And further, "what maintains one vice, would bring up two children." You may think, perhaps, that a little tea, or a little punch now and then, diet a little more costly, clothes a little finer, and a little entertainment now and then, can be no great matter; but remember, "many a little makes a mickle." Beware of little expenses; "a small leak will sink a great ship," as poor Richard says; and again, "who dainties love, shall beggars prove;" and moreover, "fools make feasts, and wise men eat them"

"Here you are all got together to this sale of fineries and nick-nacks. You call them *goods*, but if you do not take care, they will prove *evils* to some of you. You expect they will be sold cheap, and perhaps they may, for less than they cost; but if you have no occasion for them, they must be dear to you. Remember what poor Richard says, "buy what thou hast no need of, and ere long thou shalt sell thy necessities." And again, "at a great penny-worth pause a while." He means, that perhaps the cheapness is apparent only and not real; or the bargain, by straitening thee in thy business, may do thee more harm than good. For in another place he says, "many have been ruined by buying good penny-worths." Again, "it is foolish to lay out money in a purchase of repentance;" and yet this folly is practised every day at auctions, for want of minding the almanac. Many a one, for the sake of finery on the back, have gone with a hungry belly, and half starved their families; "silks and satins, scarlet and velvets, put out the kitchen fire," as poor Richard says. These are not the necessities of life, they can scarcely be called the conveniences; and yet, only because they look pretty, how many want to have them? By these and other extravagancies, the genteel are reduced to poverty, and forced to borrow of those whom they formerly despised, but who, through industry and frugality, have maintained their standing; in which case it appears plainly, that "a ploughman on his legs is higher than a gentleman on his knees," as poor Richard says. Perhaps they have had a small estate left them, which they knew not the getting of; they

think "it is day, and it will never be night;" that a little to be spent out of so much is not worth minding; but "always taking out of the meal-tub, and never putting in, soon comes to the bottom," as poor Richard says: and then, "when the well is dry, they know the worth of water." But this they might have known before, if they had taken his advice: "if you would know the value of money, go and try to borrow some; for "he that goes a borrowing goes a sorrowing," as poor Richard says; and indeed so does he that lends to such people, when he goes to get it again. Poor Dick further advises, and says,

"Fond pride of dress is sure a curse,
Ere fancy you consult, consult your purse,"

And again, "pride is as loud a beggar as want, and a great deal more saucy." When you have bought one fine thing, you must buy ten more, that your appearance may be all of a piece; but poor Dick says, "it is easier to suppress the first desire than to satisfy all that follow it;" and it is as truly folly for the poor to ape the rich, as for the frog to swell in order to equal the ox.

"Vessels large may venture more,
But little boats should keep near shore."

It is, however, a folly soon punished: for, as poor Richard says, "pride that dines on vanity, sups on contempt; pride breakfasted with plenty, dined with poverty, and supped with infamy" And, after all, of what use is this pride of appearance, for which so much is risked, so much suffered? It cannot promote health, nor ease pain: it makes no increase of merit in the person; it creates envy, it hastens misfortune.

[TO BE CONTINUED]

THE CANAL—AN EXTRACT.

"—Far in the desert bound I saw
Art's proudest triumph over Nature's law;
Where, distant shores and oceans to combine,
Her daring hand had traced a liquid line,
Uniting lakes, around whose verges rise
Mountains, which hide their heads in misty skies;
Each bound within such adamant chain,
For ages lash'd its lonely shores in vain;
Till, through their barriers, skill and labour led
The willing waves a long and level bed.
Thus, even in her wildest fastness, man
Subdues his step-dame Nature's churlish plan."

Adj't. & Insp. General's Office,
October 27, 1819.

Notice.

Under the arrangement of the Departments of State, Treasury, War and Navy, published the 27th of May, 1819—"That all claimants shall have their business attended to, by transmitting their papers without employing agents in this city," I have uniformly and promptly delivered over to the proper officer all papers which have been enclosed to me. This course I shall continue cheerfully to pursue, but it is impossible to acknowledge the receipt of such papers, and I do not feel myself liable to account for any vouchers or communications which do not belong to the files of this office.

I give this notice, as a general answer to the many correspondents who avail themselves of my service in this way.

D. PARKER,

Adjutant and Inspector General.

BALTIMORE,

PRINTED EVERY FRIDAY,

For John S. Skinner.

AT FOUR DOLLARS PER ANNUM,

PAYABLE IN ADVANCE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, NOVEMBER 12, 1849.

NUM 33.

AGRICULTURAL.

FROM THE RICHMOND INQUIRER.

Agricultural Society of Virginia.

Paper communicated by the President, Col. J. Taylor, and ordered to be printed.

ARTIFICIAL GRASSES.

It is universally agreed, that a constant impoverishment of land must ensue from tillage, without the renovation produced by manure and vegetable matter—hence, the cheapest and most ample supplies of these renovators is a primary subject; as neither the improvement nor preservation of the soil can be effected without using the means. It was seen as early as in the time of Columella, that the efforts of nature to furnish us with these means, without the aid of culture and art, were incompetent to the end; and nearly equivalent in value, to the spontaneous supply of food by the wilderness, compared with the supply from industry and cultivation. Writers reason from this discovery as an axiom, and prove that the fertility of old countries bears a strict relation to the use made of it. Egypt itself owes its fertility to its annual alluvion manuring. Thus the culture of artificial grasses attracted great attention, wherever a system of agriculture existed, worthy of any degree of commendation; it being seen that the prosperity of nations, as well as of farmers, was evidently graduated by the degrees of skill and industry, with which this axiom was practised upon; and that they were the chief means for its practical effect. Whilst a country is fresh and the soil saturated with vegetable manure, it constitutes a temporary case; and a vast extent of uncleared lands, will long keep out of view, the means for preserving the good, and improving the exhausted. But when it has passed the vigour of youth, and exhibits the marks of old age, the alternative of reducing it to barrenness, or of adopting the only mode in existence for restoring its fertility, lies before the eyes of its inhabitants. Excepting a few strips of alluvion land, there is no cultivated country, in which a dependence upon the natural grasses is more hopeless than in Virginia. A thin soil, exposed to hot and dry summers, not only prevents our lands from clothing and nourishing themselves, but has at length rendered them even unable to raise working animals for their own cultivation, and a sufficient supply of meat, milk and butter for their own cultivators. A remedy for their own cultivators. A remedy for this state of things, is necessary to stop the migration from Virginia, and to prevent its ultimate depopulation. If the culture of artificial grasses is the chief remedy, it can only be over-

looked, because it is not embellished by the glittering ornaments of novelty, and only assumes the plain garb of reason and experience.

Before the effects produced by a skilful culture of the artificial grasses, are enumerated, let us take a glance at them, collectively, in other countries. In Holland, where the cultivation of grass is generally preferred to that of bread, land sells higher as land, without having its price enhanced by adventitious circumstances, than in any other country. The industrious and profit-loving Dutch, choose rather to import, than to raise their own bread-stuff, at the expense of diminishing the culture of artificial grasses. They are as little likely as any people in the world, to make an election by which they would lose money. In England, the cultivation of grass is so much more profitable, than that of bread-stuff, as to have obtained a preference, at the expense of considerable importations of the latter. The bearings of this fact are weighty. Hay and butcher's meat in England, are nearly of the same prices as in this country—whereas, wheat there, is often three times dearer than wheat here, and seldom less than double in price. Yet the English farmers prefer raising artificial grasses, to raising wheat. Again, the rent as well as price of land, is constantly highest in those countries, where the culture of artificial grasses is pushed farthest. In England, the rent of fine artificial meadows, sometimes extends to twenty dollars an acre, rarely diminishes to ten, and is never as low as the rent of adjoining arable land, however good. As the rate of rent is settled by the rate of profit, it follows that even there, where the prices of meat and hay approach much nearer to our prices than the price of wheat, it is most profitable to raise the articles of inferior price. Much light may also be extracted from a comparison between the general rate of rent here and in England. It must be our best land, which would rent at one dollar an acre for a term of twenty-one years; and even at this low rent, both the land and the tenant are generally ruined. In England, much of the arable land rents at about ten dollars an acre, and its average rent is about six. But there, the culture of artificial grasses, is invariably mingled with the culture of grain. Now when we see the best grazing land there, renting higher than the best arable land, and their farms renting ten times higher than ours, does it not plainly follow, that both a great profit and a vast improvement of the soil, must arise from the culture of artificial grasses; and that the difference in rent between their farms and ours, is in a great measure produced by the latter circumstance? This conclusion is warranted by the fact, that the longer the term of a lease is, the higher is the rent there, and lower here; because the tenant in one case, calculates upon a mode of tillage which will improve the land; and in the other, upon its becoming poorer.

What but the use of artificial grasses, and their exclusion, has made both these calculations correct?

Let us now resort to indigenous facts. Lands sell and rent higher in the United States, in proportion to the extent and skill with which artificial grasses are cultivated. There is no doubt, but that here, as abroad, profit is the only permanent basis of price and rent; and as the highest price and rent attends the culture of artificial grasses, the greatest profit must also attend it. Both at home and abroad, the land nursed by artificial grasses, is known to be so much richer and productive, both of grain and meat, than lands not so nursed, as to pay labour far better, without taking into the account a long list of other benefits arising from this system of culture. The most productive bread-stuff farms, are those whereon grain is raised on grass lays. Of this fact, the slightest observation, experience or reflection, would convince the most incredulous.

The general conclusion, that grazing ruins land, as we know from experience, when applied to natural grasses only, but enriches it when combined with a skilful management of artificial grasses, as in the cases of Holland, England, and some parts of the United States; suffices to excite those who love their country or themselves, to inquire after the practical modes of a system, which experimentally enriches both, and solicits an attention to the distinct items of profit, by which these desirable ends are produced.

1. The phrase "artificial grasses" implies a selection from the graminaceous family, and a culture by human art, of the kinds best adapted to the soil and climate of a country, in preference to a reliance upon the grasses produced naturally. The great value of this selection, is illustrated by the contrast between the crab of the wilderness, and the cultivated pippin of the orchard; or by a comparison between the esculents of a garden and those of spontaneous production.

2. An improvement of the soil by the culture of artificial grasses, arises from the vegetable matter of both root and top, when ungrazed; from the former when grazed; from protecting the ground against heat in summer and cold in winter; from producing food to raise animal manure; from rendering the ground fit to bear deeper ploughing, by reason of the mass of vegetable matter mingled with it, than it can bear in a naked state; by which its soil is deepened; and from saving four fifths of the farm from the hoof and the tooth, by making one fifth far more adequate to supply the demand for grass, than the whole without such culture. The profit arising from this improvement of land by the use of artificial grasses, is exhaustless and in-computable.

3. Artificial grasses enable the farmer to raise meats of all kinds, for his own use or for market, of the best quality, in the cheapest modes; and to increase the size of all animals destined to slaughter or labour. The latter, by being raised in the climate where they are to work, are hardier, healthier, and better adapted for their employments. And whilst the farmer saves the expense of purchasing sorry meat and teams, he gets good without expense; because by a skillful management of artificial grasses, the manure they cause domestic animals to produce, will more than repay in the improvement of soil and increase of crops, the expense of their maintenance. This item of profit is too important to be hastily passed over. Men chiefly subsist upon grain and meat; brutes upon grass, green or dry. The difference between the expense of cultivating an acre of grain and one of grass is inconsiderable, and yet the latter will raise far more meat, butter, tallow, leather, and wool. Let any farmer calculate the expense of supplying himself with these articles, in the present mode, even excluding its heaviest item, (that of injury to the land,) and he would probably discover that most or all of them he raises cost him three times their market value. The loss however upon what he sells is trifling, compared with the loss upon what he uses: because he consumes much and sells little. When the temporary supplies from the western country diminish or fail, the evils attending upon our present mode of raising stocks, will require no proof. The arts of agriculture are as necessary to improve and increase the sustenance of beasts as that of men. Grass being the basis of food in the case of stocks, as bread-stuff is in the case of man, that mode of obtaining it which produces the most and best, with the least injury to the land, and from the smallest space, is entitled to a preference. Without the cultivation of artificial grasses, our domestic stocks occupy the precise ground occupied by mankind, when excluded from the artificial modes of raising bread-stuff, and experience the fate of a state of agriculture, as to them, uncivilized.

4. The artificial grasses produce a considerable profit by saving labour. If the labour applied to an acre enriched by artificial grass, was equal to that expended upon an impoverished acre, a vast saving would still result from the difference of the crop; as the expense of labour must be computed in relation to its produce. But the fact is, that the poor land requires the most labour, whilst it produces the worst crop, because being filled with seeds of worthless or pernicious annual grasses or weeds, and being incapable of bearing a ploughing sufficiently deep to deposit these seeds beyond the reach of vegetation, it requires double the work to destroy them as they sprout and grow after every rain, which would suffice if they were extirpated. This cannot be effected on poor land without killing it. On such, the wheat which follows corn, though the corn required and received six or seven workings, is always more infested with annual grasses and weeds, than that sown upon only a single furrow turning under good perennial grasses, because they smother all annuals, and any seeds of the latter remaining are buried by one deep ploughing, which the

earth is able to bear below the reach of vegetation. Hence in the culture of corn upon a perennial grass lay, as in a fallow for wheat, half the labour required by poor lands may be saved; because but few of the annuals appear after one deep ploughing, and as the perennials hardly appear at all in the summer, very little culture is required; and the crop is not only increased by the artificial grasses turned in, but by being freed from the frequent laceration of its roots, caused by frequent ploughings necessary to keep under the quick growing annuals infesting thin land. The wheat also following corn planted on a perennial grass lay is cleaner; for although the perennial grass seeds will often sprout in the spring, and although they ought universally to be sown with or upon the wheat, yet a providential aptitude for the benefits they bestow, is discernible in their slow growth until the wheat crop is perfected; whereas the annuals often grow as rapidly as the wheat itself. There are many weighty items of profit belonging to the labour-saving article, by the culture of perennial grasses. By diminishing arable space, whilst the crop is increased, the diminished space consumes less labour. From a division of the objects of labour, a succession of employments ensues, enabling a farmer to prevent either from suffering by the want of cultivation in due season. For instance, a full crop of corn and wheat, or a crop equal to the whole labour on a farm, is the consequence of comparing labour with space; and a great demand of both crops for labour at the same period, especially if aggravated by unpropitious weather, generally produces some neglect, and often a considerable loss. By diminishing space, not only without diminishing, but actually increasing produce, these crops will be more manageable by the labour, and receive a better cultivation. And the time saved by this diminution of space, is moreover profitably employed early in the spring, in applying manure and sowing grass seeds; previously to the wheat harvest, in mowing hay; in autumn, in ditching and draining, fencing and stubbing; and at all times in a variety of less important, but improving occupations. Thus the losses accruing both from a surplus of labour at one season, and from its deficiency at another, are avoided. Some labour is saved by the effect of the roots and tops of perennial grasses, to keep the ground loose and friable; and much, after it is thrown into high ridges of five and a half feet width, because when the ridges are reversed, very deep ploughing is more easily practicable, by turning the earth back into the furrows without working at all on the space these furrows occupy. By the friability of the ground, resulting from a great quantity of vegetable fibres, we are also secured against its baking, and save the labour necessary in that event, for crumbling or reducing it again into a proper state of vegetation. Naked ground possesses neither of these advantages. It is unable to bear the deep ploughing necessary for forming proper ridges, and it is liable both to wash and bake from heavy rains, so as to require much severe labour, again to level and pulverise it, highly prejudicial to the crop.

5. But the greatest benefit from the cultivation of artificial grasses, arises from their exclu-

sive capacity to make highland meadows. Some grasses are so well adapted for high, dry, and hilly land, if the soil is improvable, that it may very often be made more valuable and more productive than low land meadows. The expense of clearing and draining the latter, will generally exceed that of manuring the former; yet draining is considered every where as highly profitable and useful. The comparative expense between that and making highland grass, is not materially affected by the probable comparative profit. A good spring crop of highland grass is more common in our climate, than of low land. It is not exposed to inundation. A pound of high land grass, green or dry, generally contains as much nutriment as two of low land. It is more easily made into good hay. And high land grasses possess the great exclusive value of enriching the high and dry lands on which they are sown. These considerations disclose items of profit, resulting from the culture of artificial grasses, which, when united, warrant the conclusion, that it is capable of rendering a great proportion of our high, dry, and hilly lands as valuable as reclaimed meadow land.

It is next to be considered, what grasses are best adapted to the soil and climate of Virginia, and consequently most worthy of selection. The merit of red clover as an improving highland grass, is too well established to require proof. Its defects are, that it is speedily destroyed by grazing; bearing, however, that of hogs the longest; that in our warm and dry summers, it soon perishes without being grazed, especially on sandy soils; that it is difficult to be made into hay, and that its hay can only be preserved by particular exertions. It stands, however, hitherto unrivalled in its capacity to enrich the ground, if left uncut to be turned in by the plough. Timothy, in the lower parts of the state, especially if grazed, is also liable to an early death; to be eaten out by broomstraw, to have its leaves burnt and dried by the sun before it is fit to be cut; and to ripen so late as to incommode the wheat harvest, without possessing the quality of waiting long for the scythe. In the section of Virginia below the mountains, it must also be assigned to the class of low land grasses. The red top, or herd's grass, as it is indiscriminately called, is superior to timothy in many respects. It lasts longer, it bears grazing better, its leaves are not so liable to be sunburnt, it resists invaders much more powerfully—sown, mixed with timothy, it casts out the latter in two or three years, and although it ripens about the same time, it waits longer for the scythe, without sustaining any considerable injury. This grass, like timothy, is better adapted to reclaimed low lands than to high, though it succeeds on the latter better than timothy. The best grass which I have tried, in many respects, is one commonly called "the high land meadow oat." I have had no means of ascertaining whether it is a species of rye grass, or of the *avena pratensis*, or neither, nor whence it derived the appellation "Peruvian," by which I have heard it distinguished. With its qualities I am better acquainted, having carefully observed them for many years. It ripens as early as the red clover, and is easily made into fine hay, if cut in proper time. Its earliness is of vast importance in our climate.

Thence it happens, that it produces heavy spring crops, like red clover, as it commonly perfects its growth before a drought occurs. It is the hardiest grass I ever saw, and bears drought and frost, heat and cold, much better than any I have tried. It keeps possession of the land in spite of severe grazing. It flourishes best on soils suitable for red clover, but it will live on, and improve lands whereon red clover will perish. It furnishes better grazing early in the spring, late in the fall, in droughts and in winter, than any grass known to me. Ripening with the red clover, it is peculiarly fitted for being sown with it, because it greatly facilitates its conversion into hay, and retains possession of the ground for years after the clover has disappeared. Alone, cut before the seed ripens, its hay is as nutritive and pleasant to stocks of all kinds, as any I have ever used; and it will yield both seed and tolerably good hay at one cutting, as it ripens soonest at top. Mixed with favourite grasses of grazing animals, it is partially rejected, but eaten as they fail. Alone, it is greedily fed upon. After being cut or grazed, if left to grow, it rises anew, almost with the rapidity of lucerne, with a vigour but little diminished. Fifteen years experience has not enabled me to decide as to its capacity for improving the soil, because the small quantity of seed first obtained, by confining experiments to small patches, long concealed its qualities; and the large lots first sown have remained too flourishing to require manure, and too valuable to be ploughed up. It produces (after it has come to perfection, in doing which it is one year slower than red clover,) ungrazed and uncut, a warmer and more lasting cover than the clover, which has recently induced me to mix and sow it with wheat on a large scale, for the end of improving the soil, in which anticipation I have yet discerned no cause for apprehension. For this purpose, it possesses one recommendation beyond clover. It does not grow and spread so rapidly in the fall or spring, as to injure the crop of wheat with which it is sown, as is sometimes the case with clover. Upon the whole, whatever doubt remains as to its fertilizing power, the conclusions that it eminently possesses the qualities for lasting, grazing, and making high land hay, may, I think, be confided in. But it does not, so far as my trials have extended, succeed in lands originally wet, however well they are drained.

As the end designed to be produced by the previous observations, comprises their value, a plan for the management of a bread stuff farm, combined with high land meadows and artificial grasses, is the remaining subject suggested for consideration. Let us suppose a farm to consist of one thousand acres of arable land; that the greatest produce of bread grain, not in one year only, but in a course of years, is the chief object; and that the labour on it is adequate to its cultivation in the three-shift mode, that is, to having two-thirds of it annually in corn and wheat. To discover whether the profit to be expected from this style of cultivation, will be equal to that arising from the system presently to be proposed, we must first glance at its defects. It impoverishes the soil. Grass seeds cannot be beneficially sown with or upon the wheat crop, because the land is too poor to nour-

ish them, and their destruction by the plough returns too rapidly. Pasturage is scarce, bad and impoverishing to the land; and the farmer is thereby disabled from raising within the farm, teams, meat, milk, and butter, for his own consumption and comfort, and moreover exposed to annual expenses to supply the deficiencies. The labour being computed by space, and not by produce, and a great demand for it being concentrated in one portion of the year, losses accrue from its insufficiency to meet temporary pressures, and at other seasons for want of beneficial employment. The crop computed by the acre is, upon an average, surprisingly small, whilst as much labour is necessary for its cultivation, as, differently managed, would in a few years increase it per acre four-fold. Let us contrast this abridgment of the three-shift system, with an abridgment of that proposed to be substituted for it.

Let eight hundred of the supposed thousand acres be divided into four shifts of two hundred acres each, one to be annually cultivated in corn and sown in wheat, so that two will yield a crop every year. As much as possible of each shift should be manured the year it is planted in corn. This may be extended in a few years to one hundred and thirty acres, (exclusively of the twenty presently mentioned,) by ordinary management. Clover should be sown on the wheat in the spring, or meadow oat with it in the fall, and these eight hundred acres should remain ungrazed; of course, four hundred lie untouched for two and a half years, to allow time for a large produce of vegetable matter, devoted to the improvement of the soil. Let the remaining two hundred acres be appropriated chiefly to grass, and be divided into ten equal lots, one to be highly manured annually and cultivated in pumpkins, potatoes, peas, cotton, turnips, or any cleaning crop, to be followed by wheat and grass seed, if these crops are gotten off in time to sow wheat, or by oats and grass seed, if they are not. Thus two lots, or forty acres of this portion of the farm, will produce each year heavy and valuable crops, whilst a rotation will be established, sufficient to keep the grass lands clean and in good heart. Three of the other eight lots ought annually to be cut for hay, and five to be reserved for grazing, out of which last number should be annually taken the lot to be manured, so that none will sustain above five years grazing before it is recruited.

The five lots devoted to that service ought to be grazed in succession, both to alleviate the impoverishment it produces, and to increase the produce of grass. Hence he who aims at agricultural perfection or elegance, will divide these ten lots by ditches and live hedges of holly or cedar, (the former a conjectural, the latter a tried plant,) or at least by the usual fences. Even ditches alone would be of some use. But in the infancy of improvement, the attendance of old men, women, or children, are a tolerable resource, producing also the good effect of habituating the last in early life to employment, and advancing their health, with the precaution of folding the cattle in bad weather. This temporary resource is, however, greatly inferior to enclosures, particularly to the living or imperishable. Under this system, product, instead of la-

bour, will soon be computed in relation to space; and had agriculture, being deterred by the miserable crops this mode of cultivation will disclose, will shrink gradually out of sight, through shame. The means of raising manure, and the most beneficial employment for teams and manual labour, will soon present themselves in those seasons of the year now lost or trifled away. I speak not from theory when I say, that the farm, well managed, according to this system, will, in twenty years at least, return back to its original fertility. I add, as an inference from this fact, that supposing contiguous farms of one thousand acres each, one in the usual state of impoverishment and the other in woods, the former to be thus managed, and the latter in the customary mode, with the same amount of labour; that the proprietor of the first would make far more profit, and find his land at the end of the term of far more value, than the proprietor of the latter. If these rival farms were in an equal state of impoverishment, at the commencement of the experiment, I have no doubt but the first would produce three times as much bread-stuff in twenty years as its rival, independent of its inferior productions, and of its exclusive improvement.

A great annual increase of manure is the soundest test by which a farmer can discover whether he is successfully practising the proposed system or not. On the area from which it was taken, five acres were hardly manured eighteen years ago, and now the resources of the farm alone sometimes reach to one hundred and fifty. It is a bread-stuff farm, and grass is used in strict subserviency to that object, for the purpose of enhancing its profit. If gypsum, marle, a neighbourhood to towns, or any other adventitious mode of enriching land, can be added to the supply of manure on such a farm, the process of improvement, and the gratifications of increasing profit, may be accelerated.

The large area upon which the proposed system is calculated, is no obstacle to its application to any other. Its proportions may be applied to a farm of any size. This scale was adopted for the purpose of awakening the best informed order of farmers to the calls of patriotism and self-interest. Intelligence effects great objects by reflection; ignorance from imitation; and though a prosperous state of agriculture depends much upon small farmers, because they possess by far the greatest portion of the national lands, perhaps also of the national industry, its introduction depends upon the successful example of the large ones, who have time, capital and talents adequate to the cultivation of a science abounding in difficulties, and requiring no small degree of reflection. The merchants of Scotland, who had retired from trade, began about fifty years ago to assail, by precept and example, the then execrable system of agriculture habitually practised in that country, and have supplanted it by another, which has diffused a rich surface over a great space, previously occupied by a cadaverous degree of sterility. As we neither love our country less, nor confess an inferiority of intellect, an equal share of effort and perseverance by gentlemen farmers, will certainly be crowned with as much success as the efforts and perseverance of these gentlemen merchants.

since our auxiliary advantages of soil and climate are greater. They effected their patriotic design, chiefly by the introduction of the artificial grass culture; and when we consider the favourable nature of our climate for great spring crops of grass, frequently demonstrated by as heavy crops of clover as we hear or read of, and also its favourable nature for converting them into hay, no reason exists for despairing of obtaining the wonderful state of fertility which a country less favoured by nature, has acquired by the same means.

I admit that a farmer may make a less crop than usual, the first or second year after he adopts the recommended system, unless he begins with a due attention to manuring; but I deny that his profit will be less, because his diminished crop will be more than compensated by the improvement of his land. An average of the first four years will probably produce a crop numerically equal, at least, to his usual crops; but then his profit will be greater, because having raised it from less space, he will have saved much labour for improvement, and his land will be in better heart. Afterwards his crops will numerically increase gradually to an extent I cannot foresee. Should a man calculate by his hopes of life and chance for self gratification, without any regard for contemporaries, or posterity, he ought to adhere to the prevalent system of agriculture, if he expects to live two years only; if but four, his determination may admit of some doubt; but if he expects to live longer, it ought to admit of none. Even principles so narrow, will dictate to him an abandonment of the present land killing habits. A calculation which looks forward but two years, cannot possibly procure success for any agricultural system, except one for exhausting the land as soon as possible. All men, who calculate on so short an interest in the product of land, will strive to increase it to the utmost extent, at the expense of the land itself. A proprietor, sure of dying in one or two years, would improve but with little spirit, though his land was to descend to his children, but a possessor for one or two years, likely to lose the land and live, must feel a great lassitude in improving for future profit, what he cannot keep for future enjoyment. No good system of agriculture can possibly take place, under the suggestions of these impulses.

I admit also that disappointments will happen from feeble and unskilful trials. Complete success will too often be expected from partial attempts. The imagination can magnify the disrupted toe of a statue, into an entire image, and brood over a fragment with self-complacency; and fanaticism can expect wonders from relics transmitted from ignorance; but it is to be hoped that such cases will be rare in this age of intelligence and free inquiry; that the prejudices inherited from old habits will be exploded, and that the industry and good sense of the Virginians will rapidly improve all suggestions, the tendency of which is to preserve their country from decay, and themselves from indigence.

An observation is reserved for the conclusion of this essay, to face an opinion, not less erroneous than common; and not less hostile to profit than to improvement. It is too often imagined, that a rotation requiring the interposition of arti-

ficial grasses between exhausting crops, is slow in its return of profit, and demands an extraordinary capital, to supply for a time the necessities arising from this delay. But from long and attentive observation, I have confidently concluded, that no crop requires less capital, than these grasses, or is equally rapid in its returns of profit. The labour which cultivates other crops, prepares the ground to receive grass seeds, and they are mingled and sown with grain. Seed is therefore nearly all the extraordinary capital this system needs, when the artificial grasses are grazed, or devoted to the enrichment of the soil; and the expense of converting a portion of them into hay, though not as trivial, is yet inconsiderable. The returns of profit are infinitely more copious and lasting, as well as more rapid, than those made by any other crop. They suddenly yield milk, butter, cheese, meat, wool and leather. Manure, an increase of grain and other crops, and good working animals, soon follow. At every rotation, when ploughed in ungrazed, they present to the farmer an improved soil, without causing additional expense, or requiring additional labour. On the contrary, so far as artificial grasses are thus used, they save him more labour in the single article of fencing, than they consume. And finally, the profit of the system becomes so incorporated with the soil, whilst it is also enjoyed by the reaper, as both to last long, and annually to generate profit upon profit, in a ratio outstripping the fecundity of compound interest.

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RULES AND REGULATIONS

Of the Agricultural Society of Albemarle.

The undersigned, farmers of Albemarle and the circumjacent counties, duly appreciating the importance both in a national and individual point of view, of an improved system of husbandry; sensible of their own deficiency of knowledge in the theory and practice of rural economy; persuaded that agricultural associations have proved eminently beneficial to other states and countries; and desirous to procure for themselves and their neighbours the advantages of such institutions; have determined to associate together, and to constitute an Agricultural Society, having for its attention and inquiry the following objects, and for its government, the rules and regulations hereinafter specified.

Ist. Objects for the attention and inquiry of the Society.

I. And principally, the cultivation of our primary staples, wheat, tobacco and hemp for market.

II. All subsidiary articles for the support of the farm, the food, the clothing and the comfort of the household, as Indian corn, rye, oats, barley, buckwheat, millet, the families of peas and beans, the whole family of grasses, turnips, potatoes, Jerusalem artichokes, and other useful roots, cotton and flax, the garden and orchard.

III. The care and services of useful animals, for the saddle or draught, for food or clothing, and the destruction of noxious quadrupeds, fowls, insects and reptiles.

IV. Rotation of crops, and the circumstances which should govern or vary them, according to the varieties of soil, climate or markets of our different counties.

V. Implements of husbandry, and operations with them, among which the plough, and all its kindred instruments for dividing the soil, holds the first place, and the threshing machine an important one, the simplification of which is a great desideratum. Successful examples too of improvement in the operations of these instruments would be an excitement to correct the slovenly and unproductive practices too generally prevalent.

VI. Farm buildings and conveniences, enclosures, roads, fuel and timber.

VII. Manures, plaster, green dressings, fallows and other means of ameliorating the soil.

VIII. Calendars of work, showing how a given number of labourers and draught animals are to be employed every day in the year, so as to perform within themselves and in their due time, according to the usual course of the seasons, all the operations of a farm of given size, this being essential to the proportioning of the labour to the size of the farm.

IX. A succinct report of the different practices of husbandry in the district inhabited by the members of the society, including the bad as well as the good, that those who follow the former may read and see their own condemnation in the same page which offers better examples for their adoption. It is believed that a judicious execution of this article alone might nearly supersede every other duty of the society, inasmuch as it would present every good practice which has occurred to the mind of any cultivator of the state for imitation, and every bad one for avoidance; and the choicest processes culled from every farm would compose a course probably near perfection.

X. And finally, such subjects in husbandry and the arts, connected with, or subsidiary to it, not heretofore enumerated, as the society may hereafter propose for its consideration.

2d. Rules and Regulations.

I. The society shall be styled "The Agricultural Society of Albemarle."

II. The officers of the society shall be a president, a first and second vice president, a treasurer, a secretary, and an assistant secretary when the increase of business shall require it.

III. The society shall meet regularly at the town of Charlottesville in the county of Albemarle, on the first day of each regular term of the superior court for the said county, and shall continue by adjournment from day to day, until the business to be transacted shall be finished.

IV. The president, or in his absence, the first vice president shall have power to call special meetings of the society, by notice published in at least one newspaper in the city of Richmond, and one in the town of Staunton.

V. A quorum for business shall consist of at least nine members, including the presiding officer; but if from the inclemency of the weather, or the rise of water courses, as many as nine members should not attend, on the day fixed for any meeting, it shall be in the power of any three

members to adjourn the society from day to day, for any number of days not exceeding three.

VI. The officers of the society shall be elected on the first day of each regular meeting in the autumn. Each officer, so elected, shall continue in office for one year, and until another shall be chosen in his stead. And in case of any vacancy, by death, resignation or otherwise, the same may be supplied by a new election, to be made at any meeting of the society; the person thus newly elected to serve the remainder of the year.

VII. The president shall preside at the meetings of the society, and perform all the usual duties of that station. In his absence the same duties shall devolve on the first vice president. If he also should be absent, then on the second vice president, and if neither of these officers should be present, then on the vice president pro tempore, to be elected for the occasion as hereinafter directed.

VIII. The treasurer shall keep his accounts methodically stated in a book to be provided for that purpose; and when required, produce them for inspection. At every stated meeting in the autumn, and also whenever his office ends, he shall produce a fair and regularly stated account of all receipts, payments and expenditures. In the latter case, he shall moreover deliver such accounts, together with all books and other property of the society, in his hands, to his successor in office, or to the orders of the society.

IX. The secretary shall have in charge all the books and papers of the society, other than those in the hands of the treasurer, and keep them in exact order. He shall register all letters which shall be written by the committee of correspondence, or by himself, by order of the committee.

X. At the regular meeting of the society in the autumn, shall be chosen a committee of correspondence to consist of five members, any three of whom to be a quorum, for the purpose of corresponding with any other society, or persons, touching the objects which this society has in view. At the same time shall be chosen a committee of accounts, consisting of three members to receive and adjust all claims against the society for its contingent expenses, and the President or first Vice-President shall give orders on the Treasurer for the payment of them.

XI. The members of the society shall be distinguished into *Ordinary* and *Honorary*.

The persons present in person or by proxy, at the meeting which appointed the committee to draw up these rules and regulations, or at the meeting by which they were adopted, and such other persons as hereafter may be elected for the purpose by the society, shall be *ordinary* members.

All such distinguished citizens of this state, and of other states and countries, whom the society may elect for the purpose, shall be *honorary* members—and they are hereby invited to do the society, and, if convenient, to assist at its meetings.

Strangers who desire to be present as auditors may be introduced; and for that purpose each member shall be authorized to bring one friend along with him to any meeting.

XII. New members either ordinary or honorary may be elected. But no person shall be voted for as a member, unless at a previous meeting he shall have been proposed by two members to the society, with an assurance in the case of an ordinary member, that he is desirous of joining the society.

Nor in any instance shall a vote be taken, unless at the time of nomination, a statement in writing, signed by the proposers, and containing the name, and place of abode, of the person proposed, shall have been handed to the Secretary, read to the society, and entered on the minutes.

Nor shall any person be elected a member, unless two-thirds of the members present vote for his admission.

XIII. Whenever a new member is elected, it shall be the duty of the Secretary forthwith to notify him of his election in the following form:

On the day of 18 A. D.
was elected a Member (or Honorary Member) of the Agricultural Society of Albemarle, the society inviting his assistance.
C. D. Secretary.

XIV. No person elected as an ordinary member, shall be entitled to the privileges of the society, unless he shall have subscribed these rules and regulations, and paid his arrears, if any are due, to the society.

XV. New members may be nominated at any meeting: but all elections of members shall be at one of the stated meetings of the society.

The elections of officers, members and committees, shall be by ballot; and the majority of members present, including the presiding officer, shall decide all questions, except those touching the elections of members and the rules of the society.

XVI. If the presiding officers, the treasurer or secretary, be absent from any meeting, the society shall elect one to serve *pro hac vice*.

XVII. As soon as the funds will admit, the society shall propose prizes for experiments and improvements in husbandry, and for the best pieces written on proposed subjects. And in order more effectually to disseminate the knowledge of useful discoveries and improvements in husbandry, the society will from time to time, publish collections of memoirs and observations, selected from such communications as shall be made to them. To promote these views, the friends of agriculture are invited to assist the society with experiments and incidents in husbandry.

XVIII. All claims of prizes shall be sent in writing—and when read, the society shall determine which of the claims, relative to each prize, shall be selected for their definitive judgment on a future comparison. If it happen in any case, that there be no competition for a prize, but only a single claim, the society will consider such claim, and if the claim or claims be supported answerably to the views and just expectations of the society, the prize proposed shall be decreed.

XIX. Every ordinary member shall on the day of his admission, and also on the first day of every succeeding regular autumnal meeting, pay to the treasurer the sum of five dollars.

At the close of every regular autumnal meet-

ing, the treasurer shall lay before the society, a list of the members, specifying those who have, and those who have not paid their contributions; and if the contribution of any member shall be found more than one year in arrears, after the same shall have become due and payable, and if the same has been personally demanded of him by the treasurer, or collector authorized by him for the purpose, such member shall be considered as withdrawing from the society, and be no longer deemed a member—and the same shall be entered on the minutes.

Any member of the society may withdraw from the same, by sending a letter of resignation to the secretary, and by paying up any arrears which, at the time, he may owe the institution.

XX. The funds of the society shall be appropriated by a majority of the members present, at regular meetings, to the objects of the institution, in such manner as shall be deemed most beneficial, and to no other purpose whatever.

XXI. Donations may be received by the treasurer, to be added to the funds of the society.

XXII. In order to prevent imposition, the secretary shall to each article of intelligence, annex the name of the person offering it.

XXIII. No new rule, nor alteration in any old rule shall take place, unless it be sanctioned by two-thirds of the members present at two successive stated meetings of the society.

XXIV. The society shall be kept in order by the rules which are observed for that purpose by the General Assembly of this State.

KITCHEN GARDEN, FOR NOVEMBER.

(From the American Practical Gardener, published by Fielding Lucas, Jr.)

General Remarks.

As much may be done at this time, towards the laying out and preparing of new kitchen gardens, for the ensuing season, recur to directions given in former months.

In the beginning of this month, dung and trench the ground, that is intended for early crops, and lay it up in high, narrow, sloping ridges, particularly, if it be any way stiff, or of a heavy nature, to receive the benefit of the winter frost, &c. which will meliorate and enrich it; besides, by having as much of this work performed now, as can be conveniently done, it will greatly forward and assist in spring, when you are hurried with the pressure of business.

Should the frost set in towards the latter end of the month, so as to bind up the ground, and prevent your trenching, cart or wheel manure into the different quarters, wherever it may be wanted.

Celery, Endive, and Cardoons.

Continue, during the early part of this month, to plant your celery, endive, and cardoons, as directed in the preceding months, but when severe frosts come on, they must be preserved therefrom, in the following manner:

Every third row of the celery may be suffered to stand where growing, opening a trench on each side of every standing row, within six inches thereof, for the reception of the plants of the other two rows, which are to be taken up carefully, with as little injury as possible, either to their tops or roots, and planted in those new trenches, in the order they formerly stood. When the three rows are thus planted earth them up near to the extremities of their leaves, and as soon as the frost comes on severe, in a dry day, cover this wholly over with a little straw, and over this a good coat of earth. If the rows run east and west, the south side may easily be opened, to take out the plants when wanted. Or,

FOR THE AMERICAN FARMER.

DOMESTIC INDUSTRY.—No. VII

Celery may be taken up when dry, air it well, and plant it in and in a dry cellar, in the same manner, as directed for planting it in the frames.

The beds of celery, which were planted, as before directed, should in the early part of this month, be earthed up to within six inches of the tops of the plants, and as soon as the hard frosts commence, earth them up, then lay a covering of dry sand over each row, rounding it off, and after this, a coating of dry straw. The celery thus protected, may be taken up in winter when wanted, unless the weather should prove too severe.

The above work should be performed in dry weather, and when the plants are perfectly free from wet, otherwise they will be very liable to rot.

Cabbage, and Cauliflower Plants.

During the continuance of mild weather, give your cabbage and cauliflower plants every advantage of receiving free air, to insure them by degrees, to bear the cold by taking the glasses off entirely, in the warm part of the day; but always be careful to place them over the frames again, at night, and also in wet, and cold weather. Notwithstanding, when the days are cold, except there is a sharp cutting wind, the glasses may be raised, in the day time a little behind, for the admission of air, but whenever severe frosts set in, the beds must be carefully covered at night and at other times, when necessary to protect the plants from being frozen.

Housed Onions.

Dried onions should be occasionally examined, and such as are beginning to rot, carefully taken away.

Preserving Cabbages and Broccoli for winter and spring use.

Previous to the setting in of the hard frost in winter, take up your cabbages and savoy, observing to do it in a dry day; turn their tops downwards, and let them remain so for a few hours, to drain off any water that may be lodged between the leaves; then plant them down to the heads in a ridge of dry earth, in a warm sheltered place, close to one another, previously taking off their loose hanging leaves. Erect over them a low, temporary shed, to keep them free from wet, let this covering be open at both ends, to admit the air freely, in mild dry weather, these ends are to be closed with straw, when the weather is very severe.

Preserving Potatoes and Turnips.

Where there are plenty of good warm cellars, when these esculents are taken out of the ground, the tops of the turnips cut, and both of them as much as possible cleared of earth, they may be preserved through the winter in warm, dry cellars, which will afford an opportunity of picking and sorting them. Or they may be covered in the earth, by choosing a dry sheltered spot of ground, and laying straw at the bottom, and sides, as well as covering the top therewith, and over the whole a sufficient covering of earth, to protect the roots effectually from frosts. An opening may be made on the south side of this heap, and completely covered with bundles of straw, so as to have access to the roots at all times, when wanted, either for sale or use.

Preserving Carrots, Parsnips, Beets, Salsify, &c.

The best method of preserving these plants, through the winter, after they are taken up, and the tops cut off is to expose them for a few hours to the air, and then pack them separately, in dry sand, in a warm cellar, free from moisture, from whence they may be taken, whenever wanted.

Mr. Skinner.—It is about forty years since an old schoolmate of mine, then in the vigour of youth, with a young wife and little money, pushed his way into the back woods, and began the world by cutting down trees and putting up a log-house. Having laid it down as a rule to himself, never to contract debts for any thing except the absolute necessities of life; he purchased a breeding mare, one cow, two sucking pigs, a couple of sheep, and as many fowls, and as these had taken all the money he could spend, he waited patiently until they multiplied, so as to stock his farm. He laboured late and early to clear and cultivate his ground, so that after the first two years, he had plenty and to spare. The returns of whatever he had to dispose of, were prudently laid out in improving his farm, or paying off the purchase money, as it became due. He afterwards built a good barn and stable, before he thought of exchanging the little log house for a stately stone dwelling.

Meantime his wife was equally attentive to the duties of her sphere and station. Her poultry, her pigs, her sheep, and her calves, experienced her daily attention, and repaid it with interest. Her husband never sold a pound of wool, bought neither coat nor blanket, nor experienced the want of them. It never entered her head to barter twenty pounds of wool for a yard of broad cloth—a barrel of flour for ten pounds of coffee—nor thirty yards of home made linen for a silk gown. The sparkling cider, and unadulterated essence of rye, were always ready on proper occasions; and instead of the enervating juice of Asiatic weeds, she served her guests and her family with the wholesome and nourishing stores of the spring-house.

In this manner did our prudent couple live and conduct their domestic concerns for many years; and though they were not exempted from the ordinary disappointments and calamities of life, yet they enjoyed its comforts to a degree little known or felt, by many in more splendid circles of society.

It is now about six years since the companion of my youth went down to his grave, and his faithful partner soon followed him. She left his only son, (his daughters being long before provided for) an excellent farm of five hundred acres, in a high state of improvement, with every thing necessary for domestic comfort and independence. The son, however, had imbibed very different maxims from those of his father. He loved money, but did not like to work for it. He despised what he called the trifling and slow returns of daily industry, and thought it much better to become rich at once. He therefore united with some others, who were equally anxious for wealth, and they set on foot a project for establishing a bank in the neighbouring town. The object was accomplished, and the son of my old friend was made a director. This point gained, he purchased land to the amount of ninety thousand dollars, and paid half of it by means of the new bank, in full confidence that in less than two years he would sell it for double that sum. But it turned out otherwise. Before two years he could not get his own for it, and the sheriff has lately taken the liberty of selling it for him, and

also the farm his father left him, to pay the balance due to the bank; and his mode of becoming expeditiously rich has left him so poor, that he has neither house nor home; a thousand times worse off, than his father, the day he cut down the first tree.

COGITATIVUS.

Occasional Extracts.

On the agricultural habits of the people in the lower counties of Maryland.

The following is a familiar letter from a friend in a neighbouring county, not designed for publication, but it contains so many good hints, and hits off, with so much truth, certain bad habits and prejudices, that we cannot refrain from "holding up the mirror" to those slaves of early impressions, who live on without daring to inquire whether some alterations may not be made for the better. There is nothing in the letter to which the writer need hesitate to attach his name; yet we have so suppressed names and circumstances, that we hope he will excuse us for the liberty we have taken—we sincerely wish, he would favour us more frequently with his reflections, on the agricultural practices of the lower counties, which stand in need of so much reform.—*Editor.*

MR. SKINNER.—You seem to think that tobacco may be introduced into a rotation of crops with great advantage, and, Agricola says, that much would be gained by the introduction of such a mode of culture. This would prepare the minds of many for its total abandonment.—The planter and the farmer are incompatible. If tobacco is raised in sufficient quantity to be an object, it will interfere with every other species of crop, and one or the other must be neglected. However, Mr. —, of your native county, is trying the experiment, and several others of my acquaintances, and I flatter myself that I have been in some small degree, instrumental in effecting this change among them. Mr. —'s plan is clover succeeded by tobacco, tobacco by wheat, wheat by corn, and corn by rye, oats and other small grain, which will admit of the sowing clover. This plan, you will observe, admits of four fields and perhaps some lots, and, after all, clover is its foundation or base. Now, my dear sir, is it not disgraceful to the lower counties to be indebted annually to Pennsylvania for their clover seed? and yet this is the fact. Have not these people sufficient industry and sense to get out their own clover seed? Yes. But at the instant of time when clover seed should be got out, tobacco should be housed, for it is the peculiar quality of this pernicious weed, to rob all other crops of the requisite labour, and to demand for itself ten times as much as any other crop, thus impoverishing its cultivator by many months. I know, sir, that my reasoning will be deemed madness, that those who have dug and delved in the earth for half a century, surrounded by tobacco worms and covered with their slime, will never comprehend me. I want the farmer to be more than a mere raiser of grain, I wish him to unite what he now considers horticultural productions, with his wheat, and other grain, and grasses. From whence is Baltimore supplied with potatoes, turnips and onions? From a distant part of the Union, by an industrious and frugal people. Yet all these may be cultivated with the plough, an assertion which would startle

tobacco planter, and make him fancy the world as turned upside down. A gentleman in Anne Arundel county assured me some time since, that an acre of ground planted in cabbages, had produced him five hundred dollars. Let the planter look to this. An acre of ground contains 1000 cabbages, so it will of tobacco, and they will sell (if fit for making sour crout, &c. now getting more and more into use for seavoyages) at \$10 a hundred.* But the propagator of horrid forms will exclaim, if we were all to make cabbages they would sell for nothing. Be it so. But there nothing else within his reach but cabbages? Among the multitude of esculent plants, which Almighty God has bestowed on undeserving man, he may find a variety to cultivate, and the Maryland lowlander may find many he never saw, for his tobacco has made a forcible entry and detainer on his premises, and completely ousted from possession the nobler plants which become food for man and beast.† The philosophic sage of Monticello has reasoned conclusively on the subject. I have not his Notes on Virginia by me, nor time to hunt it up, but read him on tobacco and he convinced, I will give you two instances which occurred lately, among any others, to prove its "starving quality," as the orator calls it. A short time since I was in company with two ladies, famous for sending each a variety to market. Strawberries had been scarce, though wild ones were as abundant as usual. I asked them why they had sent none to market, they who formerly sent such quantities both from the garden and the field, and was informed that the high price of tobacco had reduced their husbands to pitch a large crop, and that a boy could be spared to weed the garden, gather them in the field, or bring them to market. I was afterwards informed that in the absence of one of the ladies, her son had ploughed up the strawberry beds in the garden, to prevent any interference with the crop. As to the other instance it is of a melancholy nature. I had business which occasioned me to call at the house of a planter. He had a fine little boy, an only son, twelve years old, but this boy did not go to school, and the planter father gave me as a reason, that he had taken him away, because the school was too far to walk, and he could not spare

* They were sold in this market this morning at \$5; it is mentioned to give a sure basis for speculation.—*Edit. Am. Fur.*

† Nothing was ever more true—who has not seen the farmer and planter with several hundred acres of land, and a dozen or more of slaves, whose table was destitute of a pound of good butter—a single nice potato—parsnip or tomato—could not treat a friend to a single good apple, peach, pear, or bottle of sparkling cider—without a decent saddle-horse, or even a saddle himself, his wife, or his daughters—in short destitute of all those little domestic comforts and conveniences, that serve to beguile and cheer the cares and drudgery of domestic life. A Choctaw Indian—Such must ever be the lot of those unreflecting, unenterprising drones, who shut their eyes against all the lights and improvements of the age, in which they live, who getate and die, but never flourish!—*Edit. A. F.*

a horse from the crop. This was not a poor man, but moderately wealthy. Little did Arator think that while this weed starved its cultivator and the soil, that it starved the human intellect. In Baltimore there are several extensive breweries, and I believe not a regular *hoft garden* in the state, and but little barley raised.—You say many gentlemen are beginning to write under their proper names; mine could give no reputation to an agricultural work or essay, but would subject me to the ridicule of those, who find fault where they cannot comprehend, and denounce all schemes which they have never practised.

P. S. From the sowing of the tobacco beds to the day of inspection, is about 18 months. I may one day give you my ideas on the cultivation of it. The present mode is contrary to reason and nature, and requires more labour than is necessary by double. I shall also furnish you with some other whim-whams of mine.

FOR THE AMERICAN FARMER.

On the organization and utility of Agricultural Societies, and the importance of the knowledge of Chemistry, as connected with Agriculture.
By Eli S. Davis, esq.

Abbeville, S. C. Oct. 13, 1819.

Mr. Skinner.

SIR: It is but recently that I had an opportunity of seeing a few numbers of the American Farmer, with which I am much pleased.

Such a paper, devoted as it appears to be, to the diffusion of that kind of knowledge which is peculiarly useful to the agriculturist, cannot be too universally patronized.

Agriculture, commerce, and manufactures, are generally viewed as having a co-ordinate influence on the wealth, strength, and prosperity of a nation. I am willing to admit a co-operative influence, but agriculture is precisely to the other two, what the blood is to the animal system. Without agriculture, the other two could not more exist, than man could live without blood. It is, in truth, the *fabulum vito* of all the great and essential relations of government. I need not go into a logical discussion to prove this fact; it is too plain to require illustration. But few of the many valuable improvements in agriculture are known here, and such as are known, are but partially exercised to any practical advantage. We depend measurably upon the native strength of our soil, without calling in those inestimable aids with which the ingenuity of man has furnished us.

The organization of agricultural societies should be adopted in every county and district in the Union. Besides exciting a laudable emulation in the farmer, they would tend very much to the introduction of rare and valuable articles of husbandry and horticulture. When a new invention, or improvement is offered, its utility or utility should be tested by the members of some agricultural society; and whether approved of or not, the result should be reported through the medium of some agricultural paper.

In either case, the propriety of making a report is obvious. If the invention, or improvement, should be deemed useless, the report would have the effect to supersede imposition on the public. If, on the contrary, it should be consi-

dered one which promised much ultimate good, a favourable report would greatly enhance its value, and bring it at once into general use.

To each of these societies, a gentleman should be attached, whose knowledge of Chemistry would enable him to deliver at each meeting of the society, a lecture on that department of physical science. Should this be found impracticable, the chemical works of Davy, Accum, Bachelet, and La Grange ought to be purchased for the use of its members.

By this means the great laboratory of nature would be gradually opened to the view of many, who, perhaps, know but little of the very intimate connexion that subsists between chemistry and agriculture.

It would enable men to reason on the properties, and affinities of things, and with the assistance of a chemical apparatus, develop the causes of many important phenomena. It is contended that "agriculture can only be rationally improved by calling in the assistance of the chemical philosopher; for it is chemistry which explains the phenomena of vegetation, germination, the growth, the ripening, and the death of plants."

The greatest good rendered by Buonaparte to the French nation, was derived from his patronage and sedulous exertions in disseminating chemical information throughout France; by which a new aspect and lustre was imparted to the agricultural department.

I am convinced that, the absence of this knowledge is one great cause of the retardation of agricultural improvements in this country. There is raised this year, in this state, a superabundance of corn, oats, potatoes, peas, rye and wheat: the latter yielding from 15 to 30 bushels per acre. This must at once refute the idea which I find to be prevalent in the northern states, that South Carolina is a cotton state only, and that its climate and soil are inhospitable to the production of small grain.

Yours respectfully,

ELI S. DAVIS.

FOR THE AMERICAN FARMER.

Mr. Editor—Through the medium of your useful paper, I wish to recommend a small

NEW ENGLAND PLOUGH,

which I have several times seen in operation in this county. It is of easy draught, turns the ground well over; is of simple construction, and moderate price—from five to six dollars. It is decidedly the best kind of plough I have ever seen, either for seeding wheat, cultivating corn, or breaking land; and ought to be brought into general use. Many farmers of my acquaintance wish to obtain them, but are not able to find them in your market. It is said that they can be had at Norfolk. A consignment of them to Baltimore next spring, would be of public benefit.—Those I allude to are branded "H. Pease, Enfield, Connecticut."

Talbot, Oct. 25, 1819.

The Editor will be thankful to any of his Connecticut or Norfolk subscribers for any information as to the origin and price of this plough.

THE FARMER.

BALTIMORE, FRIDAY, NOVEMBER 12, 1819.

We hope our subscribers will not fail to read attentively, the communication on the cultivation of artificial grasses, from the pen of one of the most ex-

perienced and celebrated agriculturists and statesmen in our country.

The readers of this journal must not expect to find its pages filled with light ephemeral speculations and essays, cooked up to satisfy the ever craving appetites of news mongers and politicians.—The science of agriculture is difficult—the very nature of its operations laborious, and enduring through the whole year; it is to be expected therefore, that essays treating of the vegetation, growth and management of a single object will often be long and tedious. As however the farmer gets his paper but once a week, it will be no difficult matter to get through and reflect on all it contains in his leisure moments during that period—moments which would otherwise but too often be spent in total idleness, if not thrown away in vicious pursuits. Or let him hand the paper to be read out, as the phrase is, by his sons and daughters. And what is more pleasing to an uncorrupted mind, than to contemplate the picture of innocence and happiness, represented by the honest husbandman, sitting with his helpmate after the toil of the day round the cheerful fire, in the midst of a group of happy, healthy children, each of whom reads alternately that which improves them, and enables the father with increased intelligence and effort to pursue an honest calling, which affords him the means of giving them food and raiment, intellect and moral character?

Upon those who are, in good earnest, turning their attention to the improvement of their exhausted lands, it cannot be too often urged that the first step to be taken in every plan of improvement, must have in view the accumulation of grass—without that both for winter and summer food, we cannot maintain live stock—without stock we cannot raise manure. Having recorded Col. Taylor's essay on this subject as a preliminary step, we shall go on in future numbers to speak of particular kinds of grass, and amongst others, of one which has been very little treated of in American publications on agriculture; but which we are persuaded will do well in situations where no other grass can be produced—we mean the *Florin*. The zealous and learned President of the Agricultural Society of Prince George's county, has had the kindness to loan the Editor "*The Rules and Proceedings of the Anniversary of the Workington Agricultural Society*." Amongst much other interesting matter, we find a letter from Doctor Richardson on *Florin Grass*, which we shall copy into the American Farmer, thereby making it in some degree, more worthy of the distinguished and very flattering support it has received from eminent citizens in every state in the union.

We are glad to see that a Map of the state of Maryland, so long wanting, is now offered by Mr Lucas who is so well qualified to give us a good one.

We have drawn too freely on the labours of the Editor of the Practical American Gardener, but it contains a great deal of valuable matter besides—it ought to be among the standard family books in every house in the country.—Price \$1 25.

Occasional Extracts.

To the Editor of the American Farmer.

SIR—In this section of the country our beehives are infested with a web-worm, which when fully grown is about an inch long, they are in such quantities as to take entire possession, drive off the bees, destroy all the honey and finally the wax. Will you be so good as to give a hint in your paper? and request any of your readers, that may be possessed of a remedy, to publish it in the American Farmer.

FEMALE BEAUTY AND ORNAMENTS.

The ladies in Japan gild their teeth; and those of the Indies paint them red. The blackest teeth are esteemed the most beautiful in Gazurat, and in some parts of America. In Greenland, the women colour their faces with blue and yellow. However fresh the complexion of a Muscovite may be, she would think herself very ugly, if she was not dastered over with paint. The Chinese must have their feet as diminutive as those of the she goats; and, to render them thus, their youth is passed in tortures. In Ancient Persia an aquiline nose was often thought worthy of the crown; and, if there was any competition between two princes, the people generally went by this criterion of majesty. In some countries, the mothers break the noses of their children, and in others, press the head between two boards, that it may become square. The modern Persians have a strong aversion to red hair; the Turks, on the contrary, are warm admirers of these disgusting locks. The Indian beauty is thickly smeared with bear's fat. But the female Hottentot receives from the hand of her lover, not silks, or wreaths of flowers, but warm guts and reeking tripe, to dress herself with enviable ornaments.

In China, small eyes are liked; and the girls are continually plucking their eye-brows, that they may be small and long. The Turkish women dip a gold brush in the tincture of a black drug, which they pass over their eye-brows. It is too visible by day, but looks shining by night. They tinge their nails with a rose colour.

An ornament for the nose appears to us perfectly unnecessary. The Peruvians, however, think otherwise; and they hang on it a weighty ring, the thickness of which is proportioned by the rank of their husbands. The custom of boring it, as our ladies do their ears, is very common in several nations. Through the perforation are hung various materials; such as green crystal, gold, stones, a single and sometimes a great number of gold rings. This is rather troublesome to them in blowing their noses: and the fact is, some have informed us, that the Indian ladies never perform this very useful operation.

The female head-dress is carried in some countries, to singular extravagance. The Chinese fair carries on her head the figure of a certain bird; this bird is composed of copper, or of gold, according to the quality of the person; the wings spread out, fall over the front of the head-dress, and conceal the temples. The tail long and open, forms a beautiful tuft of feathers. The beak covers the top of the nose; the neck is fastened to the body of the artificial animal by a spring,

that it may more freely play, and tremble at the slightest motion.

The extravagance of the Myanteses is far more ridiculous than the above; they carry on their heads a slight board, rather longer than a foot, and about six inches broad; with this they cover their hair, and seal it with wax. They cannot lie down, nor lean, without keeping the neck very straight; and the country being very woody, it is not uncommon to find them with their head dress entangled in the trees. Whenever they comb their hair, they pass an hour by the fire in melting the wax; but their combing is only performed once or twice a year.

To this curious account, extracted from Duhalde, we must join that of the inhabitants of the land of Natal; they wear caps or bonnets, from six to ten inches high, composed of the fat of oxen; they then gradually anoint the head with a purer grease, which mixing with the hair, fastens these bonnets for their lives!

EXTRAORDINARY PRODUCE.

Product of 400 square yards, rather less than a twelfth part of an acre, planted in pumpkins at Westbury, on West River in 1819. This was fresh cleared bottom land, but so full of grubs and roots as not to admit the plough; it was hilled up early, worked over and planted about the 20th of May at 4 1-2 feet distance, and two plants left standing in the hill, the ground received but one hoeing after planting. On the 10th of September, 41 pumpkins were pulled weighing 3873 pounds; the weights of the 30 largest were 152, 146, 140, 140, 137, 132, 130, 123, 120, 115, 112, 110, 110, 107, 105, 100, 97, 95, 93, 92, 92, 92, 92, 90, 89, 87, 84, 82, 80, 80, total 3224 pounds—three of the largest size being rotten and one pulled before, were not weighed, and a number of smaller size not ripe, were left on the vines. The product may be fairly estimated at 50,000 weight per acre at one pulling in the driest season ever recollected by the owner. Twenty-five of the largest will be sent to Baltimore market during the week, that persons desiring, may be supplied with the seed.

EMIGRATION.

Five hundred and sixty-eight passengers arrived at Philadelphia on Sunday, from Antwerp, London, Liverpool, and Nova Scotia.

BALTIMORE,

PRINTED EVERY FRIDAY,

For John S. Skinner.

AT FOUR DOLLARS PER ANNUM.

PAYABLE IN ADVANCE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos numium sua si bona norant
Agricolae." . . . VIRG.

VOL. I.

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NUM. 34.

AGRICULTURAL.

ON THE

Cultivation of Fiorin Grass.

By Dr. Richardson, D. D. Clonfeckle, Moy, Ireland.

It is with great satisfaction I have the honour of submitting to the society a paper on the cultivation of fiorin, by Dr. Richardson:

Was further corroboration necessary to prove the advantages likely to result from the cultivation of this valuable grass, I might adduce the testimony of the gentlemen deputed by the Agricultural Society of the Stewartry of Kirkcudbright and Wigton, to visit Dr. Richardson's farm. The report of E. Boyd, Esq. of Merton-Hall, and J. McCulloch, Esq. of Ardwell, confirm every statement made by Dr. Richardson; and place the benefits likely to result from the fiorin, even higher than he has done. Mr. Boyd in a letter had the honour of receiving from him, says, "I think the quantity upon one meadow, was six times as much as I ever saw upon the same space of ground," states the hay to be of the best quality; and holds out the most flattering hopes of its answering for cutting green for winter soiling.—Dr. Richardson's indefatigable exertions in bringing the cultivation of fiorin to the perfection he has done, on all kinds of soil, even where peats have been cut, will form a new era in agriculture. What the turnip does for light soils, the fiorin will do for strong. Manure is the basis of all systems of farming: An acre of fiorin may be estimated from 5 to 10 tons and capable of making from ten to twenty tons of manure, supposing it only to double its own weight.

The obligations due Dr. Richardson from his country, are GREAT. No encomium in my power to bestow, can do him JUSTICE. In offering to him my warm and grateful thanks, though they fail in conveying any adequate idea of what I conceive and feel to be his due for the benefit he has rendered to agriculture, will I trust, be received as a proof of the esteem and respect I entertain for HIM.

SIR,
When I was treated in so kind and flattering a manner at Workington, my gratitude burst out into a promise, that I would teach your most respectable society to convert the worst acre in CUMBERLAND (except in extreme cases) into meadow that should produce crops of hay superior both in quantity and quality, to any now growing on your very best. The flattering confidence you yourself were so good as to say you placed in me, abated much of the surprise my extravagant promise might otherwise have excited.

And in the delightful, and extensive tour, in which had the honour to accompany you, opportunities were perpetually occurring of discussing the practicability of reclaiming varieties of ground mostly wet, peaty moor, and now in a state completely unproductive.

I believe I convinced you of the practicability and utility of converting every such barren tract, into fiorin meadow, of great value, and of all descriptions of ground, PEATY MOOR is the most rapidly brought to profit, and at the least expense.

Happily too in a course of between 200, and 300 miles through Cumberland and Scotland, peaty moor was almost the exclusive description of all waste grounds.

I well recollect our discussing the subject as we

passed SOLWAY MOSS, and my pledging myself that the cleanest stiles of ground I have cultivated I would reclaim so much of it as we saw from the upon, and I must add, have produced crops of the road at an expense which should be repaid by the greatest luxuriance of sale of two crops of its hay; leaving FOR EVER a better meadow than any now in Cumberland.

The rapidity of the change will be best understood by the following fact, upon which I have laboured to bring much attention.

On the 20th of April, 1811, I began to cut my turf on ground less favourably circumstanced than the parts we saw of Solway Moss; having previously shown the ground to different persons explaining my intentions, and expectations.

I laid down this ground with fiorin, roots, and strings, April 24th, without soil or compost, manuring it only with ashes burned contiguous.

Late in October, I mowed this piece in the presence of Sir James Stewart of Coltness, of our friends Mr. Boyd, Merton-Hall, Mr. McCulloch, of Ardwell, with other gentlemen, and I have their authority for saying, that the crop seemed to be treble what they had ever seen mowed from so much ground admitting at the same time that it was unfit for any other culture.

It is not for me to talk of the quantity of such MOOR extended over the face of CUMBERLAND, WESTMORELAND, DUMFRIESHIRE, and GALLOWAY, it is a fact of too much notoriety, and long a subject of complaint; it is my duty to show how these dreary and barren wastes, may be made productive, how the useless heath may be made to give place to the most luxuriant of grasses.

I shall commence with some general maxim necessarily to be observed in the laying down and cultivation of fiorin. First the ground must be kept in a medium between wet, and dry, easily effected by frequency of small drains; shallow (that is 12 or 14 inches,) where drought is apprehended, and then they are to be stopped by little dams, as the dry season approaches,—deeper where the moor is wet, and much water to be discharged.

Above all, stagnation of moisture is to be guarded against, as most injurious to vegetation, but no redundancy is mischievous, if of short duration; you must remember the great deficiency of crop in the moist parts of the fiorin meadow of a friend (otherwise well laid down) but in which the drains were not made so frequent as I had ordered.

The fact is beyond doubt; but the philosophical principles upon which the injury of vegetables from torpid moisture depends, I never understood, until in company with you, I heard them clearly explained by an eminent Cumberland personage, then our host, perhaps the only scientific botanist I ever met with, who was not led astray by Linnæan folly. I need not say I mean that great and valuable dignitary of the church the bishop of Carlisle.

The next general maxim to be attended to in the cultivation of fiorin, is that this vegetable must have exclusive possession of the ground; no mixture of other grasses, nor a weed suffered to interfere with it, every prior occupant must be exterminated in the preparation of the surface, every weed pulled up as it appears, and every other grass taken up by the roots in MAY and JUNE when they show their species by their panicles.

Weeding (and especially for the first year) is a heavy task in warm arable grounds, and deep moist bottoms; where for want of fall it is difficult to discharge the waters; but in barren moors to which I am particularly anxious to call the attention of our Cumberland, and Scotch friends, the fiorin will have no competitors; these moors and cut out moss, are to

The wet MOORS, are much more favourable a soil for fiorin, than the more SPUNGY FIBROUS PEAT MOSS; the latter must be consolidated by an admixture of firmer earth, while the moory soil is sufficiently solid of itself, and so rich as to give tolerable crops without any manure; but where ashes are so easily acquired, who would decline to procure on light terms, a manure which we know forces fiorin in luxuriance to a maximum.

When preparing the moory ground for a crop of fiorin it must be made level, and completely RAW, every vegetable exterminated, and it must be opened or loosened, to the depth of at least ten inches.

I may be asked, why prepare the soil to such depth, for a vegetable, whose roots scarcely penetrate one inch; I confess the superior luxuriance of fiorin in deep soils, has often embarrassed me; you first solved the difficulty to me, by satisfying me that the evaporation of the earth was a most powerful agent, and stimulator of vegetation, of course where the earth was hard bound up, immediately beneath the roots, evaporation was impossible and that powerful stimulus intercepted.

How clearly did our scientific host the venerable Bishop of Landaff explain this new principle of nature discovered by himself?

In the preparation of our ground for fiorin we must avail ourselves of this principle, without losing sight of the peculiarity of our vegetable, whose roots penetrate so short a way into the ground;—on the former account we must till DEEP; and on the latter we must keep our manure better up to the surface, than in the culture of any other vegetable.

The Scotch and English understand every species of tillage so much better than we do, that I shall not presume to discuss PRACTICES with them, I shall confine myself to PRINCIPLES.

When told *faring* and *burnings*, must be an admirable stile of preparation for fiorin, I reply are you sure you till deep enough? and that your plough does not bury your ashes below the roots of the vegetable you wish there to stimulate into action?

With a view to the latter object, my process is as follows—having tilled the ground to the proper depth, in the easiest manner its circumstances will admit; I spread HALF my manure, be it ashes or compost, over the level surface, and then with a harrow if it will bear it, I not with a spade, paint in and mix this manure with the upper soil, to the depth of an inch and a half, thus enriching the Matrix, to be occupied by the roots of the vegetables.

I then scatter my fiorin strings, no matter whether cut or not on the surface, and spread the remainder of my manure over them, to which if not sufficient to nearly cover them, I add as much of the surface soil as is necessary; the business is now done, protection from external trespassers, and rival weeds, and grasses within, alone remain.

Before I proceed to detail the mode of saving the crop when ripe, and to name the period at which I recommend fiorin meadows to be mowed, I must state the probable value of the crop that by the promise of enormous quantity I may rouse attention to the measures I recommend which might not be encountered under moderate expectations.

You, sir, with probably the same feeling, having satisfied yourself of the immensity of fiorin produce, by examining and weighing the luxuriant fiorin crops of your friend Genl Dirom, at ALEXAN; and wishing to impress the same conviction upon others wrote to

me to ascertain the precise amount of an acre of fiorin, both fresh mowed, and completely dry for storage.

I rejoiced at the call, and though I had in three former seasons ascertained by unexceptionable witnesses the amount of an English acre of dry hay, to be six, seven, and eight tons; I repeated the same trial, and mowed on September 16th, the twentieth part of an acre.

To the weight when fresh cut I annex little importance, circumstances must vary it so much, but the weight of the hay when dry, and fit for house or rick is the test;

As I was setting out to Workington I was obliged to commit the charge of weighing (when dry) to a military friend, high in rank; his report reached us at Dumfries, and with the other authentic documents on the subject, is deposited among the records of the Agricultural Society of the stewardry of Kirkcudbright; they established the weight of the crop mowed by your desire, to exceed eight tons and one quarter, to the English acre; when perfectly dry (my friends phrase.)

This is the fourth time the immense amount of fiorin crops has been established in as many separate seasons. The great difference in value of the crops of fiorin, and other grasses, the latter seldom far exceeding two tons; will I expect secure attention to my statement of the natural history of the two descriptions, fiorin and common grass; with the essential difference between them, upon which such opposite results depend.

Every variety of grass of which we have hitherto been used to make hay, gives us two different productions, the leaf and the stalk (culmus); this latter contains the whole seminal apparatus, is the part we preserve as hay, comes to its perfection in its inflorescence, and should be mowed then, or very shortly after.

But in all our grasses hitherto saved for hay, as with most other vegetables, the life is indissolubly connected with the root, so that the produce when severed becomes dead inanimate matter, and like all other vegetable and animal substance when deprived of life hastens to putrefaction through the usual process of fermentation.

When then we wish to preserve this substance for use, our process is obvious; we give it as much surface as we can, exposing it both to sun, and wind, to evaporate, not only the atmospheric moisture it may have acquired from rain, and by which fermentation is encouraged; but also its own crude, aqueous juices, which stimulate to fermentation still more.

When by stirring, and exposure for a sufficient time, we get entirely rid of the former, and as much of the latter as we consider dangerous; we venture to accumulate for store and call it hay.

Such are the principles, and the practice founded upon them, by which we have hitherto been used to convert our grassy produce into winter provender.

Let us now examine the vegetable substance which I have brought forward into notice and recommend to be substituted in the place of the hay, we at present use, as possessing infinite advantage over it, and productive of the greatest benefit, to the consumer, to the landholder, and above all to the state itself.

I have said that the only produce of the grasses with which we are acquainted is the stalk, and leaf. Nature endows the *agrostis stolonifera* (our fiorin) with a third species of produce, different from, and totally unlike the former; in its periods of growth; in its habits—and still more in its valuable properties.

This grass producing leaves, stalks and seed, like the rest of its tribe, as June is advanced begins to exhibit its own characteristic marks, and to project shoots, which creeping along the ground, and vegetating without interruption, acquire great length, and from their number and length accumulate into a fleece, or mass of grass, far superior in quantity to any crop ever produced by any other of the grassy tribe.

I first brought serious attention to this after produce of the *Agrostis stolonifera*, these long strings, by botanists called *Stolones*; and neglecting the leaves,

and stalks; collected and saved by itself for use, this new vegetable material, and with great diligence investigated its nature, and traced the singular properties by which it differs so essentially from the produce of all other grasses.

The first and most important is that in these *Stolones* the principle of vegetable life, independent of and unconnected, with the root, as in the others, pervades the whole stolo, or string, animates all its parts equally, and undisturbed by the scythe, pervades the dry, and even housed hay, for many months.

I have elsewhere stated the pains General Trotter and I took to ascertain this point, bringing from the cock in the field, and at the same time from my hay loft, fiorin strings, and trying them in my hot house, where they always vegetated;—from December to the beginning of May; then the principle of life seemed to be extinguished; and now the same little cock which had braved the winter rains began to fust, and with the first June rains rotted and was thrown to the dunghill.

This retention of the principle of life, discovers itself in practice, without the trouble of experiments for when our tramp-cocks, or shake-cocks, stand long in the field the ropes that hold them tight, like the bands of our sheaves of corn in a bad harvest, all vegetate.

The next remarkable property by which fiorin differs from common grass, is the uninterrupted vegetation of these stolones, which never stop lengthening their string; that is to increase, the quantity of their produce; the eye is sufficient to establish the luxuriant growth of every fiorin acre I have standing through this wet November; and two years ago I was able to ascertain that the stolones were vegetating and lengthening through February, and an unusually deep snow and in severe frost.

This perpetual vegetation from the middle of June, should reconcile sceptics to the immense difference between fiorin crops, and those of common hay, when they know, that the period in which the grasses that form the latter, vegetate with strength, and increase their quantity, rarely exceeds seven weeks.

From the time the crops of common grass attain their perfection, they begin to fall off, the stalks become lignous, the leaves collapse, and rot; here the farmer has no option; he must mow his hay crop when ripe.

With fiorin the case is quite different, for consisting of animated stolones, which never abate in quality, the crops may be mowed, and afford excellent hay from the beginning of September, to the end of April; and in every week in that period, I have mowed fiorin of the same quality, and saved it with ease.

But though this strange measure succeeds in small quantities, I do not say it would suit practice in a great scale; besides, we require to have our winter provisions ready for use when wanted.

When then should fiorin crops be mowed? that is, how long can we venture to avail ourselves of their increase of quantity, without exposing ourselves to the danger of having more green hay on our hands than we can manage in the short days and rainy weather, we have reason to expect?

I reply, through the whole month of October if the crop be large, and the latter half, if it be moderate, or small;—as in the making of this fiorin into hay, much of it must be thrown into November, a season in which the hay, that we are acquainted with can scarcely be saved; the prudence of so late mowing has been questioned.

But here the principle of life peculiar to fiorin, stolones, comes into our aid, and enables us to save hay composed of them, with more ease, and certainty, than common hay is saved in summer.

Eminent philosophers (as I have stated elsewhere) prove that the principle of life, irresistibly counteracts both, putrefaction, and evaporation; hence wet, that so much contributes to rot common hay, is to fiorin quite innocent; Mr. Miller of Dalswinton, and separately, made the experiment; he steeped

some, of his fiorin eleven days, and I sunk mine at the bottom of my pond for thirteen, neither of these parcels sustained the slightest injury, nor, when again dried, was the predilection of cattle for them in the least abated.

I had small lap cocks perhaps twelve pounds weight, which stood in my field neglected, and untouched for four months last winter, the wettest season remembered, yet they did not sustain any damage, and for four years past I have had hay in the common course of making, in the field, every day from October 1st, to March, and numbers coming to witness the strange process.

Let me not be misunderstood to recommend such extremes, it is the duty of the experimentalist to try powers to the utmost; while the cautious practical farmer, avails himself of his experience exactly so far as is prudent and no farther.

I recommend fiorin hay to mowed in October a period so late, as to give good time for the stolones to lengthen, yet sufficiently early to save the crop with ease, and to have it ready for use when wanted.

I proceed as follows; I shake out my sward the day it is mowed and roll it up into lap cocks, damp as it may be;—I am not afraid of atmospheric water, while in the field, but my great object is to get rid of it, that I may be able to accumulate, as notwithstanding the antiseptic powers of fiorin, a quantity pressed together, and stored wet, would certainly spoil.

My lap cocks remain untouched for a week, I then seize the first dry moment, go round them, turn the damp side to the wind, and gently raising them up so as to loosen them that the air may penetrate, an hour afterwards, I go round them again and turn them over with the point of a stick, exposing their basis to the wind.

In another hour, I go round them again, lighten them up, make the base as narrow as I can, and keep any hay that may be wet on the top.

When they have stood another week, I repeat the same process, never breaking up a lap cock.

After three or four days, I put them into shake cocks, that is, I accumulate as many together as can be heaped up without treading, and hold them tight by a rope or two.

When they shall have stood thus for a week the hay is quite fit for use, but as the quantity probably far exceeds the immediate demand, it will be prudent to accumulate these into common tramp cocks of 15 or 10 hundred weight, which may stand in the field through the winter, ready for use as wanted.

I shall be told these cocks will be spoiled by the severity of winter weather, no doubt common hay would, but the animation of the material of which their surface is composed, protects fiorin both from putrefaction, and evaporation; and we find the whole mass equally fit for use, when in tramp cocks of common hay, much of the outside coating, must be thrown away, spoiled and rotted by long exposure.

I proceed now to another description of ground still more favourable to fiorin culture, and more extensive at least in Scotland and Ireland, wet peaty mountain.

I say more favourable, because the declivities make drainage a matter of great facility; and the skirts of the mountains where improvement will necessarily commence, must be all capable of irrigation from the commanding upper hills; and of all grasses fiorin is most improved by irrigation.

In the transactions of the agricultural society of the stewardry of Kirkcudbright, (copies of which were in so flattering a manner presented to you, and to me) I find a very intelligent memoir by one of their vice Presidents, Mr. Mure.

This gentleman dividing his country into three districts determined by their respective elevations; of the highest, or mountain districts says, "But the greater part of the (mountain) moors must be limited to the breeding of sheep, and young cattle, and of grazing highland cattle; want of tillage and meadow ground, and consequently of fodder limits greatly the breeding of cattle."

What will Mr. Mure say to the introduction of a style of culture into his mountain moors, to which it has been objected that the immense quantities of hay it would produce could not find a vent?

The objection was made to Mr. Miller of Dalswinton who was preparing for florin, tracts of mountain moor to an extent I dare not mention; he was asked how will you dispose of the hay? my good old friend replied, *I shall send it to market on its legs.*

It will be doubted, that florin will vegetate in Alpine climates, where other culture is given up as desperate. I reply that where a vegetable thrives spontaneously it may also be cultivated.

That this hardy grass does grow spontaneously, on our highest mountains, is a question of fact, for the ruth of which you heard me call for the testimony of the noble president of the society of the stewartry, of Kirkcudbright.

I addressed the Earl of Selkirk in his chair, and asked him if he had not, at my request, gone to the summit of Knockiad Mountain to look for florin, and if he had not found it there in abundance; The height above the sea 1660 feet.

I was then speculating a priori; but now the facts established by the luxuriance of the florin I planted far up on the Marquis of Abercorn's mountain, and still more by the extensive meadow laid down yet higher on the Marquis of Hertford's wet and peaty mountain above Belfast.

[TO BE CONTINUED]

Treatise on Smut in Wheat.

THE EARL OF CHESTERFIELD

Has ordered, that copies of the following Extract from the Farmer's Journal, should be distributed amongst the Tenantry on His Lordship's Estate. And should they have any communications to make on the subject, they are requested to address their letters to MR. BLAKIE, and enclose them to the Earl of CHESTERFIELD, at Bradby Hall, near Burton upon Trent.

EXTRACT FROM THE FARMER'S JOURNAL OF THE 2d OF SEPTEMBER, 1811.

To the editor of the Farmer's Journal.

SIR,—I venture to address you on a subject interesting to most Agriculturists, and I may say of great importance to the community at large, namely, the disease in Wheat called Smut, Bunts, Blabs, &c. should you think the following observations worthy of a place in your Journal, you are at liberty to make use of them for that purpose.

As the Wheat seed-time is now approaching, I consider it a matter of great importance, that every farmer should use proper precautions against the probability of his having any portion of Smut amongst his Wheat crops, in the produce of the following year.

I am aware that many agriculturists will think presumptuous in me (so little qualified) to attempt to give information or instruction on these subjects; others will scoff and say, there is nothing new advanced, and that they have long been fully acquainted with both the theory and the practice.

But as my views are clearly disinterested, and I will even say, patriotic, I shall not be deterred from endeavouring to communicate my ideas on this very important subject; being in hope that (should you deem the treatise worthy of a place in your Journal) it may attract the eye and command the attention of some farmers of different descriptions from those I have before mentioned. Should that be the case, I shall feel satisfied, and fully compensated in the hope that the country will be ultimately benefited by a more general adoption of the rules here laid down.

As an introduction I shall first state, that being fully convinced, by a series of experiments made upon this farm (Bradby, in the county of Derby,) carried on under the patronage of the Earl of Chesterfield, (whom I have the honour to serve in the capacity of Bailiff,) I have no hesitation in stating my opinion to be, that the Smut in Wheat is a contagious disease, the nature of which being foreign to

the pursuits of the practical Farmer, can be best explained by the Naturalist. It is sufficient for the Agriculturist to be convinced that the disease is highly infectious, and that it is, in many instances, but too easily communicated to the seed, in which state the inoculation is effected.

To prove the foregoing assertion, any person having doubts, may try the effect of inoculation on a small scale by means of the following simple process. Take a few handfuls of perfectly clean wheat, wash it well in pure water, and on some spot in the farm garden, or other convenient place, sow one half of the Wheat in its clean washed state; then take a portion of the fine black dust of Smut, and with it inoculate the remaining half of the washed Wheat. This may be done by putting the smut dust and washed Wheat together into a small bag, and shaking them well. Let the Wheat remain in the bag a day or two, or more, till it is dry, and afterwards sow it on a convenient spot of ground, at a distance from the other part previously sown. The result will certainly prove satisfactory by the produce in the following season.

When a farmer becomes convinced of the infectious nature of the disease, the most desirable purpose has been effected, for he will ever after be careful to avoid infection.

The disease is frequently communicated by various insidious means, seldom sufficiently attended to, such as—by putting pure Wheat into foul sacks—by spreading it on a barn floor where smutted wheat had previously been thrashed—by the means of thrashing and winnowing machines, &c. &c. The infection is also not unfrequently carried from the barn door where smutted wheat had been winnowed, the dung being removed from thence and laid in a green state upon land intended to be sown with Wheat.

Although according to the theory I now advance, viz. where there has been no infection communicated to the seed, there will be no Smut in the produce; and however strict a farmer may be in adhering to this system, and of course cautious in guarding against infection, yet I do not advise him to trust to caution alone as a safe preventive; for, as I have before observed, the infection is frequently conveyed in the most insidious manner, so that it is almost impossible to be sufficiently guarded against it, without the aid of washes, styptics, &c. &c. and I strongly recommended a proper attention to their application in the manner hereafter treated of.

It has long been an established practice amongst intelligent and unprejudiced farmers, to be very careful, not only in the selection of Wheat for seed, but also in attending to well washing, brining, steeping, or otherwise preparing the seed, for its being deposited in the ground, being satisfied from perhaps dear-bought experience, that on the proper execution of the process of pickling, depends their safety against the probability of having Smut amongst their following Wheat crops.

I am sorry to say, there still remain a few pretended Agriculturists, perversely and obstinately attached to opinions they have formed on the nature of the disease, such as—that it is occasioned by the state of the weather,—by the situation of the land—by the nature of the soil—and by various other causes, equally erroneous and absurd. To such men I strongly recommend to try the effect of inoculation in the simple manner I have before described.

Another class of farmers are convinced by experience, that smutted seed will produce smutted crops, and are therefore more careful in the selection of Wheat for seed, which they frequently sow in the same state in which it is bought; consequently, not unfrequently disappointed in the produce, not being aware of the infectious nature of the disease; or that even highly infected seed may be (by the proper use of applications) made to produce clean crops. Such, however, is the fact.

On some farms, the occupiers take little or no trouble about preparing the Wheat seed, but continue to sow the same produce, without change, for

a number of years in succession, yet are never troubled with Smut. Such instances are in corroboration of my assertion, that if there has been no infection, there will be no disease; and is also in favour of an opinion which I now advance. That with proper attention the disease may, in a very few years, be totally eradicated.

Since the advance in the price of salt, the expense of good brine or pickle, has become of much consideration to farmers, and in consequence, various substitutes have been adopted, which have frequently proved inefficacious.

In attempting to give directions for this necessary operation, I recommend, that previous to all other applications, the Wheat should be well washed in pure water. This process is performed with facility by means of close wicker baskets, in which the Wheat may be put, and immersed in running water, or in tubs, cisterns, &c.; but what ever method is used, let the Wheat be well stirred up, shook about, and the refuse skimmed off. The pickle or brine may be made of coarse salt and clear water, sufficiently strong to carry a new-laid egg. The wheat after being well washed, must be put into the pickle, and the quantity proportioned to the size of the vessel, so that the Wheat is completely covered by the pickle; let it be stirred up several times, and all refuse skimmed off. The wheat should remain in the pickle from six to twelve, or more hours.—The pickle must then be drained off and with the addition of a little fresh salt, will be ready for the next steeping. When the wheat is taken out of the pickle, it should be spread over a barn, or other floor to dry; and here it may be necessary to remark, that where there is any danger of infection from the floor, it should previously be dusted over with quick lime, well swept into the crevices of the floor. After the Wheat is taken out of the pickling tub, and laid on the floor, it should be well dusted over and mixed with quick, or caustic lime; and if turned over by a shovel, or stirred about by the teeth of a rake, it will dry faster and be sooner ready for sowing; and if run through a Barley or Oat riddle, it will separate better as it is sown. Should the weather prove unfavourable at the time, the seed will not take injury from being pickled, should it not be sown for a fortnight afterwards, provided it is spread thin on a dry floor, and turned occasionally.

Another method of pickling is sometimes practised with success, by immersing the wheat into, or sprinkling it over with stale chamber-ley, and afterwards dusting it over with quick lime; but this method, although much cheaper; is not so advisable as the former; because, by the latter method, the operation is frequently not performed effectually, there being much danger of the seed being injured by the strength of the chamber-ley. So also the Wheat pickled in this manner must be sown immediately after it is dressed, be the state of the weather what it may; for if kept out of the ground for a time it would be perished, that is, its vegetative powers would be destroyed; whereas, by the former method no such danger is to be apprehended, and is therefore to be particularly recommended where drill husbandry is practised; as the seed may remain with safety till it is quite dry, before it is sown, which will prevent its clogging in the seed-cups, it being liable to do so, if sown when wet.

Many other methods of preparing seed Wheat are practised, and many ridiculous nostrums are made use of for that purpose, one of which cannot be too severely reprobated, that is, the use of solutions of arsenic, a very dangerous expedient and ought to be discontinued.

I shall now, Sir, commit the foregoing observations into your hands, leaving it to your discretion to make such use of them as you may think proper. I subscribe myself,

Your humble Servant.

FRANCIS BLAKIE.

Bradby Hall, near Burton-upon-Trent, Aug. 27th, 1811.

Kitchen Garden for November.

From the American Practical Gardener, published by Fielding Lucas, Jr

[Continued from No 33—p. 264.]

FRUIT GARDEN, FOR NOVEMBER.

Raspberries.

The red and white Antwerp raspberries are excellent fruit, but less hardy than the other varieties; it will, therefore, be necessary in the eastern and middle states, to lay down the shoots of the present season, immediately previously to the severe frosts, first cutting off close to the ground, the shoots which bore fruit the preceding summer. The superfluous, weakly shoots may likewise be cut off, and also the straggling tops or they may have a general and final pruning.

Then dig the earth between the rows, and add some very rotten manure, after which, being provided with some hooked wooden pegs, and a number of long pliant hoop-poles, lay down each row of shoots, gently on one side, on these lay the poles lengthwise of the rows, pegging them down with the hooks, so as to keep the shoots close to the earth; after which cover all over with light litter of any sort, in order to protect the plants from the effect of the various changes of the weather, as well as from frost. Here they will remain safe till the beginning of March, when the litter is to be taken off, the plants raised up, and the ground receive its spring dressing.

ORCHARD FOR NOVEMBER.

Planting and Choice of Situation, &c.

This being the most suitable season for planting out fruit trees of all kinds, after remarking that the soil should always be a dry rich loam, the observations made in January and February are referred to.

Apples, pears, quinces, plums, cherries, peaches, nectarines, apricots, and almonds, may now be planted; also, walnuts, chestnuts, filberts, persimmons, medlars, berberries, and every other kind of hardy fruit trees.

Pruning.

You may now commence the pruning of all fruit trees, except stone fruit, as there is more time at this season than in the spring; but if it was not for the pressure of business, the spring would be preferable for all; the stone fruit must be omitted pruning till then.

NURSERY, FOR NOVEMBER.

General Observations.

Continue to dig and trench the ground, to forward the business for spring.

Where it is necessary to mature any part, it should be carried and spread over the ground, previous to digging. This season will be more suitable to perform this work, than at the time of planting.

Protecting Seedlings and young Plants

All seedlings, that are rather tender, should have hoop-arches over the beds, and at the time of severe frosts, thick mats, &c. placed on them, in order to protect the plants.

Every kind of hardy plants in pots, should now be removed to places where they may have sufficient protection in severe weather; for if fully exposed to the frost, the plants will be injured, and the pots broken by it.

When hardy and exotic plants are set out in large pots, these may be plunged to their rims, in a warm border, and covered six inches deep over their edges, with tanner's bark, &c. which will considerably preserve their roots.

The more curious kinds of evergreens, and other plants in pots, should be removed into the greenhouse, or under garden frames, with glasses or other covering.

Care of new planted Trees.

Tie up all new planted trees to stakes, especially those which may be exposed to the winds.

Lay some light litter over the roots of the more tender kind of trees and shrubs, to protect them, in some measure, from frost.

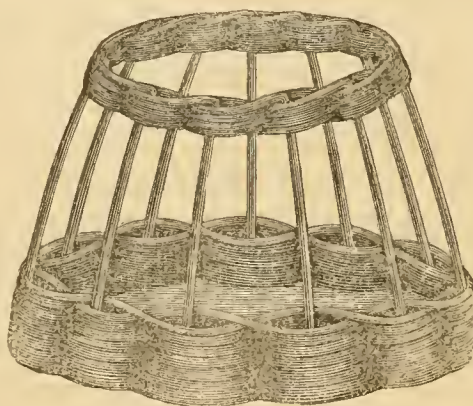
Pruning Trees and Shrubs.

Hardy forest, ornamental trees or flowering shrubs, &c. may now be brought to their proper form by cutting off the straggling branches, and trimming up the stems of such as require it; but the more tender sorts should not be pruned till spring.

SHEEP.

A simple Contrivance for feeding Sheep.

This contrivance is denominated a *tumbril*; it consists of a circular cage or crib, which may be made of osiers, willows, or other pliant brush-wood. The whole is about ten feet in circumference, and closely wattled to the height of about one foot, above which it is left open for the space of eighteen inches; it is then wattled again to the height of eight or ten inches, and an opening about eighteen inches in breadth is left at the top for putting in the roots or other food, whether green or dry. The staves which form the skeleton of this utensil are ten inches asunder, so that twelve sheep may feed at the same time in each *tumbril*.*



Considerable benefit may be derived from the adoption of the simple contrivance above represented for the purpose of feeding sheep; for it not only effects a material reduction in the consumption and expense of provender, which is thus prevented from being trodden under foot, or soiled with dung; but also, in this state of separation, the stronger sheep cannot drive away the weaker, as each is secured by the head. Besides, as the construction of such a *tumbril* is attended with no difficulty, it may be easily procured, and conveyed to any part of the farm; and, with due care, may be kept in constant use for eight or ten years.†

* "Repertory of Arts and Manufactures," Vol. IV. first series.

† This *tumbril*, so simple and easy of construction, would be found useful in the facility with which it may be moved, and set down for any given time on poor galled spots in the field.

The manure dropped about it, would restore these spots to the common level of fertility, and thereby cure these offensive *eye-sores*, so disgusting in the view of all thrifty farmers. A practice observed by Mr. Ward, of Cœcil, in the management of sheep, may here be appropriately introduced. It is copied from the Editor's note book, dated November, 1814.

"Mr. Ward, of Cœcil, has 136 sheep, which in winter he feeds on *wheat straw, salted*, say half bushel of salt to 100 bushels of straw, given to the above with half a bushel of corn 3 times a week—sneared 44 lambs 1st July, product 112½ pounds wool—sold to the hatters at 80 cts. per pound—thinks they wintered as well as those not sheared, and that the quality of the subsequent fleece was improved—sprinkles salt on poor spots, sheep in resorting there, manure them—finds that they prefer lying on *naked land*." A good plan would be to plough up poor spots in a sheep pasture in summer—they will always go to such places to rest during the night.

Ed. Am. Farmer.

FROM THE NATIONAL INTELLIGENCER.

On the Grape Vine,

With its Wines, Brandies, and dried Fruits.

No. I.

No principle of action in the business and industry of the United States has been so beneficial to them as the adoption of *new objects of culture* by the planters and farmers, whose old objects of culture were likely to become redundant, and to fall in price. *Cotton* and *sugar* are well known and important examples. There are good grounds for estimating our whole cotton of our best year, (September, 1817, to September, 1818) at 42 millions of dollars, according to the price on the wharves of our seaports for that which was exported to foreign countries, and the price at our factories, stores, and dwellings, of that which was manufactured at home. It is now manifest that the East Indian and South American cotton greatly injure our markets; and as this arises from growing, permanent, and substantial causes, there is reason to expect the continuance of the injury to us from the foreign rival cotton cultivation. A brief and plain view of the history and prospect of cotton, will be found in the Philadelphia edition (A. D. 1818) of *Rees' English Cyclopædia*, by Murray, Bradford & Co. under the article or head of the "United States." The facts there stated, with many known subsequent circumstances, will give rise to serious reflections, in the minds of the landholder and the statesman, upon the subject of protecting the productions of our own soil. The industry of the landed men of the U. States is manifestly and unalterably much greater than any, and than all, the other branches of our domestic or national industry. The mercantile and manufacturing branches result almost entirely from the landed industry. While, therefore, the legislative and executive governments raise revenues of 27 1-2 to 60 per cent. on a great quantity of foreign cotton cloths from India and Europe, and a higher revenue from the foreign manufactures of tobacco, and a still higher revenue from the foreign manufactures of grain, of fruit, and of the cane, to the great fundamental and convenient support of American manufactures; and while they are free to go further, if they find it right, in the joint encouragement of our agricultural and manufacturing industry it will be found beneficial to the landed interest to inquire into other means of promoting the prosperity of the *Colossus of our country*—the agricultural industry.

There can be no doubt that, between the sites of the vineyards of the Lower Schuylkill, Southwark, Pennsylvania, Butler of Pennsylvania, Glasgow, Kentucky, New Vevay, of Indiana, and Harmony, the same state, on the north, and the coasts of the Gulf of Mexico, on the south, the United States possess the climates and soils of "the vine-covered hills and gay regions of France." The sweet orange grows in Italy, in groves and gardens, in the vicinity of New Orleans, at a greater distance from the sea than any place of equally safe growth, in Provence or Languedoc, of France. As our country will be cleared and drained, our climate will be all less severe in the States on the Mexican Gulf. In the north, our climates of New Vevay and Harmony, in Indiana, Glasgow, in Kentucky, in 38 degrees 30 minutes north, which are the present northern extremes of successful experiments in the vine cultivation, are as favourable and mild as the climates of Champagne, Fokay, Braine, Burgundy, and Hockheim, which are the northern regions of the vine in France and Germany. Between our New Vevay, in Indiana, and the Gulf of Mexico the states of Louisiana, Alabama, Mississippi, Georgia, South and North Carolina, Tennessee, Indiana, and large parts of Virginia and Kentucky must give us all the vine climates of France, Germany, Switzerland, and Upper Italy. This vine-tract of the United States is much larger than all those vine countries of France, Germany, Switzerland, and Upper Italy. The crop of wine and brandy in the vine country of France alone, though our country is more than twice the size, has been estimated at 100 millions of dollars. Let us then consider the propriety of a diligent inquiry into the cultivation of the vine, and the preparation of wines, brandies, dried fruits, and cream tartar, in the United States, in order to maintain the prosperity of the added interest by the variety and prices of our crops.

The present duties on foreign distilled and fermented spirits and liquors, (brandy, gin, rum, arrack, wines, beer, ale and porter) and on dried fruits, though laid for revenue, afford a great and sure encouragement to the establishment and the manufacture of the grape. The demand will increase with our population, and the facility and certainty of the culture and crop will grow with the clearing and draining of our country. Ridges, hills, mountains, rocky lands, any steep grounds, gravelly, stony, sandy, and her inferior lands, (if only dry) will yield profit in large crops or in fine qualities of wine, or both. Fresh and dried grapes are both favourable to health and longevity. Ripe grapes have been administered to whole regiments of troops in France, who have been ravaged by fluxes and dysenteries.* The quantity of wine computed to be produced in France is ten millions of casks, of nearly 63 gallons each, on two millions of arpents (not 2,200,000 acres) of land, often not fit for wheat, rice or tobacco, valued very low, at a medium at fifty francs the cask or French hogshead. This is three times the value of the cotton crop of the United States, on a medium value, reduced in 1818 or in 1819, and demands our early and serious attention, particularly from the Gulf of Mexico to the end of the 39th degree, when the country in that degree shall be cleared and drained in its wet or marshy parts.

It has been already observed, that ridges and hills are the most suitable shape or form of country for vineyards. The most proper exposure is from south east to south. It is believed that all southern exposures will do. The propagation may be by seeds, or by cuttings or by bending and covering a part of an old vine so as to make it grow out in another place at a proper distance. The plough is of much use in the cultivation, so that care must be taken to plant the

vines at such distances as to facilitate the use of the plough and the harrow. The best grapes which can be obtained should be used, in order to put the culture forward. These may be foreign or American, native or imported. A harsh grape to the taste may produce a better wine than was expected, and more and better brandy. The finest grapes of Europe and the African isles are supposed to be native wildlings improved by culture and selection. The region of the plum and peach appears to include the region of the vine. Although the south is the proper sphere of the grape, its cultivation there will leave the bread grains, tobacco, hemp, the grasses and cattle to the more exclusive and profitable culture of the states north of the proper region of fine and abundant crops of wine. We pay annually to foreign nations a sum of money for wines, spirits, and materials to make spirits, and for fresh and dried grapes, as great as our whole specie medium. So important is this subject, in various points of view, to all the states, that it is respectfully recommended to the superintendants of all our public, agricultural and philosophical libraries, to procure all the treatises on the culture of vines and making of grapes which are to be found in the languages of France, Germany, Spain, Italy, and great Britain.

A Friend to the National Industry.

Philadelphia, Nov. 1. 1819.

Note by the editor of the American Farmer.

It is to be regretted, that more general attention has not hitherto been paid to the keeping of accurate meteorological tables; if it were for no other purpose than to save cultivators from engaging in many expensive experiments which theorists have induced them undertake by confounding one climate, and the course of husbandry of one country with another—merely because, on an inspection of the map, they happen to lie in the same latitude. The city of Baltimore is in lat. 39 20 north. The city of Seville, in Spain, is in lat 37 32. These cities are situated about a similar distance from the ocean. At Baltimore the winters are remarkably severe; with every precaution the fig, as a shrub, can scarcely be preserved from destruction by the intense cold. The neighbourhood of Seville, is alike famous for its olives, Oranges and Xeres, or sherry wine; indeed, is only surpassed by the West Indies in the growth of the sugar cane.

The Islands of Great Britain and Ireland are situated in about the same parallel of latitude as Newfoundland. The European Islands are susceptible of the highest agricultural improvement, and are literally cultivated like a garden, while the American Island, has been abandoned as being too bleak, cold, and wholly unsuited for habitation.

We are told by philosophers, that the mean temperature below which particular productions cannot be cultivated with success.

	FAHRENHEIT		
	Deg.	Min.	Sec
Vineyards yield Wine	43	52	30
Olive trees	55	37	30
Orange trees	62	22	30
Coffee	64	37	30
Sugar canes	68	00	00

The mean temperature of our climate at Baltimore as noted by a very accurate observer, was in the year 1817, which was unusually chill and wet 52° 4.

Extract from Captain Lewis Brantz's Summary of Meteorological observations near Baltimore, for the years 1817 and 1818.

YEAR 1817.					YEAR 1818.				
MONTHS.	Faren-heit's Ther.	Water fall'n. inch.	1-10th.		Faren-heit's Ther.	Water fall'n. inch.	1-10th.		
January,	28 2 1/2	2 2	1-2	31°	28	2	—	9	
February,	27 2 1/2	2 2	8	31°	28	2	—		
March,	40 3 1/2	4 2	1-2	29	3	—			
April,	58 4 1/2	1 2	1-2	46 1/2	2	—	1		
May,	59 —	2	6	57	6	—	4 1/2		
June,	69 —	9	1	71	1	—	1 1/2		
July,	74 1/2	3	5	76 1/2	4	—	1		
August,	71 1/2	10	4	73 —	4	—			
September	65 —	3	3	63	3	—	2		
October,	52 1/2	1	8	51 2/3	2	—	1		
November,	46 2 1/2	3	7	45 —	2	—			
December	34 —	3	6	9 1/2	2	—	6		
mean of the year, 52° 1-4.		18 5	1-2	mean tem- perat. 50 1-6.		32	6		
		inches water.				Water fallen.			

Greatest cold in the year 1817—15th. Feb. at sunrise, 4° below 0—and the greatest heat 30th July, 92°.

Greatest cold in the year 1818—10th Feb at sunrise, 2° below 0 and the greatest heat 12th July, 94°.

It is worthy of observation, that although the summer of 1818 was remarked as unusually warm, the mean temperature of this year is 2° lower than 1817. This arises from the circumstance of the first five months being unusually cold: the heat commenced towards the end of June, but then it continued uniform until the end of August, and in December, it was severely cold.

From the Albany Argus.

MR. BUEL.—It may be acceptable to many of your readers who are in the habit of collecting and preserving medicinal plants, or 'roots and herbs' for family use, and for sale, to be advised of the most proper manner and time of selecting and collecting them. So many of them enter the shops of the druggists, and become a necessary and valuable prescription under the direction of the physicians, it is of importance that every species should have its similar quality in a similar degree. Many a vegetable medicine has lost its reputation in the hands of scientific physicians from repeated disappointments in its efficacy, because it was gathered out of its proper season. I have therefore, selected the following directions!

Vegetables should be collected in places where they are indigenous, and in soils and situations where they naturally flourish with the greatest luxuriance. The decayed part should be separated, and on drying the sound portion, care should be taken to prevent the dissipation of volatile parts; and during the time of keeping them, the access of insects or impurities. Annual roots are in the greatest perfection just before their shoots spring forth, and biennial ones in the spring of the second year; in the autumn of the first, their virtue is not greatly inferior, but there is no danger of gathering the degenerate root, hastening to decay, by mistaking the second for the first year.

Perennial roots are the best in the spring, just before the period when the sap begins to rise.

Juicy roots, if their medicinal portion be not volatile, may be rapidly dried by a heat from 90 to 120 degrees—but if aromatic, in a current of cold dry air, and exposed to the sun. Thick roots should be sliced and hung on strings.

Herbs and leaves in general acquire activity from their age—but mucilaginous ones become woody. Particular attention should be bestowed on collecting the fatted hellebore or bear's foot, and fox glove; the former has the leaves of the first and second year at the same time, distinguished by their colour and their acrimony; it is necessary, therefore, to select one kind only, and the older are the more active.

* See Dr Tissot's advice to the people of Lusanne.

The fox glove is a biennial, and the leaves previous to the flowering of the second year, more active than those of the first; they should if possible, be distinguished. Aromatic leaves should be collected after the flower buds are formed: Annuals, about the time of flowering; biennials, before the sap mounts; and perennials before they flower. they should be dried rapidly, and if succulent, by artificial heat.

Resinous barks are best collected in spring; gum my ones in autumn; and of the former, the heaviest should be preferred.

Flowers, as well as herbs, should be collected in dry weather. Seeds and fruits should be collected when ripe, but before they would fall spontaneously. Vegetables generally should be dried by artificial heat, though not to such a degree as most slightly to destroy their colour. Every vegetable should be kept dry: Herbs and leaves when brittle or friable, appear to have lost their odour, but regain it on being kept in a close box. Oily seeds and fruits should be kept in a dry cool place, but not beyond the season of again collecting them. Those vegetable substances are best preserved in every form which have grown and been gathered in a dry season. M.

Extracts from a Compendious Dictionary of the Veterinary Art.

(Continued from No. 32—p. 254.)

CALVING. At the end of nine lunar months or 40 weeks the period of the cow's gestation is complete: and about a fortnight or three weeks before this time, what is termed Springing takes place. The space then between the shape and the udder becomes redder than usual, the udder enlarges, and the ligaments or joinings of the bones termed the Coupies, on each side the rump, are by degrees giving way, till a yielding or something like a separation of them can be felt. When these appearances show themselves, the cow is at her full time, and should be narrowly watched, as she hourly may be expected to calve. Immediately before calving, the animal appears to be uneasy, the tail is elevated, she shifts about from place to place, and is frequently lying down and getting up again; the labour pains then come on, and by the contraction of the womb, the contents are gradually pushed forward. At first the membranes appear beyond the shape like a large bladder of water; this soon bursts, and after the water is discharged, the head and fore-feet of the calf are protruded beyond the shape; the body next appears, and the delivery is soon complete. In a little time afterwards some trifling pains take place, which separate the after-birth or cleansings, and then the process is finished. Such is the usual course of what may be termed a natural calving, and the time of it seldom exceeds two hours in the whole; sometimes, however, it is protracted to five or six, or even longer. When the water bladder breaks early in calving, and before the mouth of the womb is sufficiently expanded, the process is often slow, and it is a considerable time before any part of the calf makes its appearance. In such cases Mr. Skerret thinks it necessary to assist nature by introducing the arm into the uterus, and laying hold of the fore legs, to bring them gradually, as the pains occur into the passage, by which means the delivery is soon accomplished: he observes, however, that such interference should be carefully avoided, until it appears absolutely necessary. He strongly reprobates the practice of driving the animal about when symptoms of calving appear: which

proceeds from an erroneous opinion, that the process will thereby be facilitated; he has known many instances of its having proved fatal. It happens more frequently with the cow than any other quadruped, that the calf, instead of presenting in the usual way, that is, with the head and fore-feet, is so situated in the uterus, that delivery is rendered difficult and sometimes impracticable, without assistance. In such cases, it becomes necessary to introduce the hand, and change the position of the calf. When, for example, the head presents without the fore-legs, which are bent under the breast; it cannot in this position be drawn away without endangering the animal's life. In this case, the calf is to be gently pushed back into the uterus, so as to admit of the fore-legs being drawn gradually and carefully out into the vagina. It may be necessary then, particularly when the calf is unusually large, or when the passage of the cow is comparatively small, as is sometimes the case the first time of calving; to place cords round the feet and under-jaw, and, whenever the pains occur, to assist nature in gradually extracting the calf. On some occasions, considerable force has been found necessary for this purpose, and no ill consequence has ensued from it; but it should be recollected, that nature is never to be interfered with in the process of delivery, unless it is first clearly ascertained that assistance is absolutely necessary. The preternatural positions of the calf, which at times occur, are various, and have been well described by Mr. Skerret in his *Treatise on the Parturition of the Cow, &c.*

CALVES. Diseases of. The principal diseases of calves are diarrhoea or scouring, and costiveness. The former should not be hastily interfered with; it is often a salutary evacuation; but when it becomes violent, or continues longer than a day or two, some means must be employed for checking it. The most simple remedy should be first tried; such as gruel made with wheat flour or arrow-root, with two or three drams of prepared chalk twice or three times a day. If this fail, add to the chalk two drams of tincture of opium, a dram of ginger, and four ounces of peppermint water. In obstinate cases two or three drams of catechu may also be given; and the dose of tincture of opium increased. Glauber's salt and castor oil are the best remedies for costiveness; the dose of each is from six to eight ounces, if given separately; if joined, about four of each.

[To be continued.]

FOR THE AMERICAN FARMER.

Domestic Industry.

No. VIII.

Mr. Skinner,—We are frequently told, that commerce will regulate itself. It is very true; and so will the yellow fever, and the plague, regulate themselves. As soon as these scourges of the human family have destroyed all that come within their sphere of influence, they will cease to destroy. In like manner when a ruinous commerce has produced bankruptcy, as far as its influence has extended, it will cease also. But this is like the physician curing all ills, by stopping

motion; or rather, like submitting the cure of disease to death himself, instead of applying a judicious remedy, before it has injured the constitution. Woful experience has proved that merchants, as well as gamblers, will pursue a losing trade, in hopes of a change of fortune, until *their all* is gone. Nor will they even stop then, if they can avoid it: but follow on in the same course till their friends and connexions are involved in one common ruin. But if commerce will regulate itself, why are such sums of money lavished for that purpose? Let any one who can, add up the millions of dollars, that have been expended from the year 1796, to the present time, on our navy, on ambassadors, plenipotentiaries, envoys, outfits, consuls, and agents; and to these add the expense of the last war; for all these were to regulate commerce, and he will perceive that it has been the most expensive of all our regulations. Had one-tenth of these sums been appropriated to the encouragement of domestic industry, both our home and foreign trade would, at this time have been in a very different condition. Foreign markets would have been less glutted with the produce of our soil, our warehouses, and stores, emptier of foreign manufactures; our country possessed of more specie and less debt, we would now have had a great many more persons working, and far fewer, wanting.

The truth however is, that as long as any one maritime nation undertakes to regulate its commerce, every other nation, regardless of its interest, must do the same. To be convinced of this, let some of our advocates for unlimited trade, send a few bales of our manufactures, some cotton twist, some hats, boots, or shoes, to London, or Liverpool, and they will soon be informed how trade is there suffered to regulate itself. They will also learn, that the maxim of buying wherever the article can be had cheapest, is not adopted in the country from which it emanated: that on the contrary, the rule there is:—You shall buy nothing abroad for home consumption, that can be made at home.—And they will give you a very good reason for it, namely, our population must be supported, and we may as well support it for working, as for going idle. Indeed the basis on which all commercial regulations ought to be established, is that those regulations shall have the greatest possible tendency to promote domestic industry. For as this is the real source of national wealth whatever promotes it, ought to be encouraged, whatever has a tendency to injure it, ought to be restrained.

We have unfortunately subverted this rule and made every thing subservient to commerce. The consequence is, that, like a spoiled child, it has not only injured itself, but also, agriculture, the parent by which it was indulged. It is now to be hoped that the parent has learned wisdom from experi-

nce, and will in future lay some more salutary restraints upon its headstrong offspring.
Yours, &c. **COGITATIVUS.**

FOR THE AMERICAN FARMER

Premiums offered by the Agricultural Society of Albemarle, at their Meeting, Nov. 1, 1819.

1st. A premium of 30 dollars for the greatest production and best quality of winter wheat from not less than two acres in one piece.

2d. A premium of 20 dollars for the next greatest production, from the same number of acres.

3d. A premium of 30 dollars for the greatest production and best quality of Indian corn from the same number of acres.—upon high land.

4th. A premium of 20 dollars for the next greatest production from the same number of acres.

5th. A premium of 50 dollars for the best method of recovering worn out lands, to more hearty condition—within the power of farmers in general, by judicious culture and the application of common and cheap materials as manure, founded on experiment, made upon at least two acres.

6th. A premium of 40 dollars for the second best method.

The society are persuaded that every system of Husbandry must necessarily, if judicious, conform to the circumstances of the country in which it is adopted. These circumstances are, its climate, its soil, the kind of labour employed, its products, the reward for such products, &c. A grazing country for example—will be most interested in discovering the cheapest and most productive method of growing and fattening stock, the improvement of their breed, &c. whilst in this section of country, where the valuable grain wheat and Indian corn constitute the staple productions, such a system of cultivation will enlarge their products, ought to command the first consideration. Intimately, and indeed indissolubly connected with this interesting subject, is the reclamation of our exhausted lands; the result of the deteriorating system of our ancestors, and of which the present generation is far from being guiltless.

It is therefore to the encouragement of these objects that the society first proposed to apply its funds; and as these shall increase it will be enabled to widen the sphere of its patronage till it embraces the whole circle of Agriculture. Regulations concerning the foregoing premiums.

The premiums as above proposed shall be awarded, on the crops of the year 1821. Those for wheat in the autumnal session of that year, and those for Indian corn in the ensuing spring session. Those for the reclamation of land, in the session of the autumn of 1822.

Persons desirous of becoming candidates for premiums on crops, must give notice thereof by letter, (post paid) or by personal application to the Secretary, on or before the 1st of September, 1821, as it regards wheat, and on or before the 1st of April, 1822, as it regards corn; stating in writing their names, residence, description of the crop raised, and the object offered for premium. Also the nature and quality of the soil on which the crop has been raised, the produce, the manner of cultivation, the quantity and kind of manure (if any) used the preceding year. The quantity and kind of manure used the year of its production, the quantity and kind of seed sown, or planted and the time and manner of preparing it, the time and manner of sowing or planting, and of harvesting.

It is understood that the several kinds of grain must be raised on old improved land. The products to be ascertained by the certificate of two respectable and disinterested witnesses. Candidates for premiums, for the reclamation of worn out land, must state also in writing, the nature and quality of the soil, the degree of exhaustion, the kind and quantity of manure (if any applied) and the result of such application, on or before the first of Sep. 1822.

None but the members of the society shall be candidates for premiums—

All premiums shall be paid in silver plate with proper inscriptions.

But the society reserves to itself the right of withholding the proposed premiums, in any case where their appearance is peculiarly meritorious.

P. MINOR, Sec'y.

Nov. 1, 1819.

For the American Farmer.

RUTA BAGA—CULTURE.

MR. SKINNER,

Dear Sir—I would thank you by informing the public through your truly valuable paper, that there is at my store, some excellent Ruta Baga or Swedish turnip, which exceed in size, solidity, &c. any I have seen in this country or Europe: leaves and bulb averaged over twelve pounds each. These turnips were grown by Mr. Stephen Biddle, of Dorchester county, eastern shore of Maryland, and notwithstanding the dryness of the season I understand Mr. B. has a large good crop, which will amply compensate him for any trouble which he might have had, by the increased quantity and quality of his butter, and the rapid improvement of his cows and hogs fed on them.

From the very general and profitable use of the Ruta Baga in Europe, I fear our American farmers pay too little attention to the growth of this valuable vegetable. To speak of Mr. Biddle's abilities as a practical farmer would be superfluous, as he is well known to many of our agriculturists; would to God we had one thousand such men in the

state of Maryland, then indeed, our sister states would not bear away all the agricultural laurels.

I am with respect,

JOSEPH P. CASEY,

No. 2, Hanover street.

Baltimore, Nov. 15, 1819.

Note by the editor of the American Farmer.

Mr. Biddle's success, notwithstanding the uncommon drought, must be attributed to extraordinary care and attention, and goes to corroborate his character as a skilful and judicious cultivator of the soil. A few turnips from the same farm, in Dorchester county, have been sent to the editor's office, and far excel in size, any he has before seen. They measure two feet round, and we are assured, were not the largest that were gathered.

Occasional Extracts.

MR. SKINNER—Whilst I was in Ohio, I had the happiness to see the Steubenville cloth manufactory, and to be known to Mr. Dickinson, of that place, who is part owner of the manufactory, and who owns a flock of seven hundred of the most beautiful merino sheep in the world. The manufactory is great and I think splendid. I saw fine cloth weaving, and afterwards saw it dressing, made from the wool of the sheep which I had seen. I engaged a few yards of it, brought it home—have a coat now making for myself and for my son and daughter, who will call on you shortly, on their way to Cecil. I send you 2 1-8 yards of the same cloth which I ask you to accept, as a proof that you were not forgotten by me, when the mountains separated us. I however make a condition, that unless you will be proud to show on your back such a sample of home manufacture, you are not at liberty to keep it. My belief is, that if I have ever seen as good imported, I certainly never saw any superior. The Steubenville manufactory is in full operation, making cloths of various prices. I bought some for a great coat at four dollars and some cents the yard, which I think is better and more beautiful than imported cloth, which is sold in our shops at six or seven dollars the yard.

The glass manufactory of Pittsburgh, which I visited furnishes glass superior to any that I have ever seen imported from England, and assuredly at less price. The fine cutting, polishing, and engraving, surpass in execution, all I have ever seen. My good sir, are these things true, and do we purchase imported cloth and glass, and a hundred other things imported, which we could have better made at home? These things ought not to be so—it is time that we assume the attitude of an independent nation—we send to foreigners almost our heart's blood to pay for things we can and do make better at home—many of our surplus products they want but little of

and care less for, then why do we not create a market at home for our surplus bread, by encouraging the manufactories of our own country; and in return, their labourers will eat our bread.

THE FARMER.

BALTIMORE, FRIDAY, NOVEMBER 19, 1819.

Proceedings of the Agricultural Society of Albemarle Virginia.

In Number 33, page 262, we published the rules and regulations of the agricultural society of Albemarle, Virginia.

At that time we did not know the date of its organization, which was the 7th of October, 1817. Nor had we then been furnished with the following lists of officers, elected October, 1819, to serve one year.

JAMES MADISON, President,
TH. M. RANDOLPH, } Vice Presidents.
JAMES BARBOUR, }
JOHN COLES, Treasurer,
PETER MINOR, Secretary.
TH. W. MAURAY, Assistant Secretary.

Corresponding Committee.

T. M. RANDOLPH,
JAMES BARBOUR,
PETER MINOR,
T. G. WATKINS,
W. D. MERRIWETHER.

The Society has done us the honour of making the *American Farmer* its organ of Publication—As we have been politely informed by the following extract of a letter from Mr. Minor, the Secretary—In recording this extract it would be affectation, not to say ingratitude, were we not to acknowledge, that we feel highly gratified that our humble toils should have already attracted the favourable notice and patronage of citizens distinguished alike by their public spirit and public services.

Extract of a letter from Peter Minor, Esq. Secretary of the Agricultural Society of Albemarle, Va. to J. S. Skinner, Editor of the *Am. Farmer*, Baltimore.

"The society came to the resolution of making the *American Farmer* the medium of communicating its transactions to the public. In consequence of this resolution, I now forward you an extract from the latest proceedings, with a request, that they may be published. The society have on file, some interesting memoirs, which will also be forwarded as soon as the corresponding committee make the selection and the copies can be made out."

Present Prices of Country produce in this Market.

Actual sales of white and red Wheat—On the 16th inst. from Talbot, White at \$1 25—Red \$1 12½—17th, at \$1 11—18th, \$1 10—Present Quotation, for Red Wheat, \$1 16 to \$1 12—Corn 60 cents—Rye, 60 cents—Oats, 45 to 50 cents—Flour from the wagons, \$5 75 to \$5 87½—Whiskey, 38 to 40 cents. Corn Meal, in the Market, \$2 per 112 pounds—Retail, 12 pounds for 25 cents—Chopped Rye, \$2 per bushel—Hay, 16 dol. a 18 dol. per ton—Straw, 10 dol. a

12 dol.—Tobacco, four hhd's, sold the present week, for 8 dol. and 10 dol.—Do 4 hhd's. at 9 dol. a 11 dol.—Do 9 hhd's. at 11 dol. and 13, all from Calvert county. The eight hogsheds quoted in our last, as having been sold by Mr. L. W. son, from Calvert county, for 8 dol. a 10 dol. should have been 8 dol. a 10 dol. 50 cents. Tar, 3 dol. per barrel. Turpentine, 2 dol. Pitch, 2 dol. Rosin, 2 dol. Spirits Turpentine, 45 cents per gallon. Cotton Upland, 17 a 20 cents. Beans, (white) 1 dol. 20 cents per bushel. Peas, (black eye) 80 cents. Lard, 14 a 15 cents per lb. Bacon 13 a 14 cents. Flaxseed, 1 dol. 50 per bushel. Pork, 13 dol. a 15 dol per barrel.

FROM BOARDLEY'S HUSBANDRY.

I. *A Mess, according to Dr. Johnson.*

Beef 1 lb. potatoes 2lb. Scotch barley ½ lb. onions 1-3 lb. pepper and salt. Bacon 3 ounces. Cost 10 cents. This, says Doctor Johnson, would be a dinner and supper for three men; better than the common messes of fat bacon and cabbage, with which bread and beer are required. If one such man eats a pound of bacon at nine pence sterling for his dinner and supper, that article alone is equal to what might support three men; independent of bread and beer. Cost, 33 mills a man, or 3 cents 3 mills.

II. *Mess. Dr. Johnson.*

The head of a sheep, barley 1-2lb. potatoes 3lb. onions 1-2lb. pepper and salt, cabbage, turnips, carrots. Water 11 pints. Cost 16 cents. Produce 6 quarts.

This was preferred to the other, for richness of flavour and taste; owing to the bones in the head which were broken small before they were put in the stewpan. It makes a most comfortable dinner for four men. Cost 40 mills or 4 cents a meal.

III. *Mess. Dr. Johnson.*

Bacon ½ lb. barley ½ lb. onions, pepper and salt. Cost 9 cents. A dinner for three men, needing no bread.

IV. *Mess. Dr. Johnson.*

An ox check, barley 1 lb, potatoes 6lb. pepper and salt, onions 1 lb. Cabbage, turnips, carrots. Water 22 pints. Cost 30 cents. Produce 3 gallons. A meal 18.7 mills or 1 cent 8 7-10m.

This costs 30 cents, without bacon; and gives three gallons of very excellent pottage, for 8 men at dinner and supper (perhaps even for 10 men.) It was rich, and better than my other pottages. Ox check seems to have the preference to the coarse pieces of beef commonly chosen. In all the above cookery, says Dr. Johnson, a very close stew-pan used, which emitted scarcely any evaporation; a material circumstance. Heads: These dishes are not meant to be continual; but to be three or four days in the week.

V. *Mess. Dr. Johnson.*

A shin of beef, barley 1 lb. onions 1 lb. potatoes 6 lb. Cabbage, carrots, turnips, salt and pepper. Water 11 quarts. Cost 28 cents. Produce three gallons. Dinner for 7 men. Cost 40 mills, or 4.0 cents a man.

VI. *Mess. Dr. Johnson.*

Ox's head ½, barley ½ lb. onions ½ lb. potatoes 3 lb. Cabbage, carrots, turnips. Salt and pepper. Water 5 1-2 qts. Produce 6 quarts. Cost 16 cents. A rich and high flavoured pottage. In the last two above trials, the doctor omitted the

bacon; because the flavour of it, in some other instances, was too predominant; and it is a needless expense. On the whole of his trials, he found that ox check or shin beef are preferable to any pieces that are without bones. See Prison Diet.

POMPION DIET. *Dr. Lettsom.*

The sort common at the tables of the people of Massachusetts, are distinguished by the name of "the winter, or long neck squash." They weigh 10 to 15 lb. This squash is boiled about half an hour; then mashed up with flour or dough. They make "bread puddings, and most excellent pancakes; by mixing certain proportions of this vegetable, previously boiled, with flour. But most commonly, they are eaten stewed, the skin being first taken off, and the entrails taken out. It is almost a standing dish at their tables; even amongst the most opulent."

General Cautions in Country Cookery.

Soups are never to be filled up or have even a drop of water, hot nor cold, added; and are never to boil briskly. They are to be long, very long over the fire, simmering rather than boiling. And all soups having roots or herbs, are to have the meat laid on the bottom of the pan, with a good lump of butter. The herbs and roots being cut small are laid on the meat. It is then covered close and set on a very slow fire. This draws out all the virtue of the roots and herbs, and turns out a good gravy, with a fine flavour, from what it would be if the water was put in at first. When the gravy is almost dried up, then fill the pan with water; and when it begins to boil, take off the fat.—Never boil fish; but only simmer, till enough.—Beef quick boiled, is thereby hardened; simmer or slow boil it, in not too much water.—Veal and poultry are to be dusted with flour, and put into the kettle in cold water. Cover and boil slow as possible, skimming the water clean. It is the worst of faults, to boil any meat fast.—In baking pies, a quick oven well closed, prevents falling of the crust.

Wasteful or indolent people overlook calculation; and too many may think but little of the wholesome and nourishing qualities of food. But here are well informed and most actively good men, recommending to the world the results of much inquiry and experience therein. However lightly may be thought of a cent on a single meal of victuals, when the sum of a year's meals is calculated, for a person, a family, and a nation, it becomes striking and important. A cent for a meal, amounts to three cents a day.

Dolls.

One person at 3 cents a day, saves in the	year	-	-	-	-	-	11
One family of 5 persons	-	-	-	-	-	-	55
A nation of 5 millions of people	-	-	-	-	-	-	55,000,000

The cent thus saved by the good house wife, on every plentiful meal of the wholesomest food, would be sufficient for maintaining the most desperate war by the freemen of America, in defence of their country, against the wiles and the violences of the great enlightened world?

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,
BALTIMORE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si boni norint
Agricolus." . . . Ving.

VOL. I.

BALTIMORE, FRIDAY, NOVEMBER 26, 1819.

NUM. 35.

AGRICULTURAL.

ON THE

Cultivation of Fiorin Grass.

By Dr. RICHARDSON, D. D. Clontockle,
M. y. Ireland.

Extracted from the memoirs of the Worlington Agricultural Society.
[Continued from No. 34—p. 268.]

Your Cumberland mountains are not of this description, being mostly dry and stony, and the soil shallow, they are less favourably circumstanced than those which are clothed with a deep skin of peat; till however there are many parts of them where fiorin would thrive well, and although these may bear a small portion to the whole, yet still their extent will be found sufficient, amply, to supply the entire mountain district with hay, and to enable the inhabitants to apply their rich meadows to tillage.

I shall point out the portions of these mountains, which I conceive suited to fiorin culture, rejoicing at an opportunity of recalling to my memory, and retracing these delightful scenes, through which you have me such an enchanting tour, and where I spent so many happy days among the hospitable inhabitants of the shores of Windermere, and its beautiful island.

The first stile of ground commences with the gorges of the mountains, near which a rill always rises, and we agreed would amply suffice for the purposes of irrigation, and fertilize the valley on both its sides, narrow indeed at first, but always widening, and from its length comprehending a very considerable tract.

Much peat and moor, was scattered over the narrow declivities, so that the two grand agents for stimulating fiorin luxuriance are abundant, ashes, and running water.

The sole difficulty and expense will be found in protecting this long, narrow meadow from the depredations of mountain cattle, but here local circumstances come in aid, and render fencing much less formidable than in other places.

The masses of flat stones (admirably fitted to form dry walls) the Debries of the Schistose rocks, bursting through the precipitous faces of the mountains above, furnish the best of materials immediately at hand, and will reduce the expense of enclosure to a trifle.

I proceed to another style of improvement, of which I think these beautiful fells are capable, and which is frequently discussed upon the spot.

Nature is here our guide pointing out to us in legible characters, what these bleak summits are capable of producing.

I showed you in many places, where the steep abated between the precipice and the vertex, that the surface was covered with fiorin panicles, in apparent health and even luxuriance.

It is true we did not ascend the mountain to examine the soil. What then? We see that our favourite thrives in it, and whatever the soil may be, we now how to improve it.

If peaty, (as is probably the case) we burn it in that airy situation, and with ease procure ashes to any amount.

If marshy the declivity facilitates drainage; if dry is likely we can have the aid of irrigation, by vaulting ourselves of the mountain rills, swelled by very heavy shower.

I am aware this is mere speculation, I must therefore be moderate in my demands, I do not call upon proprietors to rush into practice at once upon my authority, let them feel their way gradually, and I shall assist them.

Let them select a place where spontaneous fiorin

is abundant, and enclose a rood by a dry wall built of the contiguous schistus.

To the indolent, I say the business is done, the external animal enemy being excluded, and the fiorin left to contend for the possession, only with vegetable rivals, will have pretty well overpowered them by October when my indolent pupil has only to take up his scythe, and mow a good crop of hay.

I shall however suppose him not quite so bad as to sit entirely with his arms across. I shall assume that he will give me some small help.

Let him then ascend the mountain in June, and help the fiorin a little way with its competitors; let him in that month, when all grasses show their species by their panicles, root out all that interfere with his fiorin.

These I perceive are almost exclusively the Eynouras Cristatus, and Festucelator, grasses with coarse ligneous stalks, which standing longer, are better marked for extermination than any other.

By getting rid of these he will secure a much richer crop in October, and his meadow will soon become pure fiorin.

Should his zeal exceed my expectations, and call forth more strenuous exertions, I have already pointed out the measures he is to pursue as the soil turns out, peaty, or marshy, or dry.

The experiment I propose is neither expensive, nor troublesome, the result will soon be ascertained; should it prove me to be a visionary, I have done no great mischief; should my speculations upon the powers of fiorin succeed here, as they have done every where else, that they have had a fair trial, what a beautiful field do they open.

I hope your Cumberland friends, and Westmoreland neighbours, will have spirit enough to make the experiment. Nature has lavished her favours on this delightful portion of their country; she has left little for man to do, and she gives him a broad hint what that little is.

Strangers crowd to admire their romantic scenery; to look down on their rich and verdant valleys—by a coup de theatre let them change the scene, and show the spectators their valleys covered by a yellow harvest, and the verdure of their meadows transferred to the summit of their fells.

What a succession of extensive fields for improvement did our tour open, as we proceeded from Cockermouth towards Keswick—what extensive Moors in that vale from the cataract above Ulswater, for a great length of road towards the hospitable mansion of Rose Castle, between Rose Castle and Carlisle, and before I had the pleasure of meeting you, a flat, moist, moory tract, running south from Bowness, unhappily, (as I think) now consigning to farinacious crops.

These moors, barren at present, would soon and cheaply be converted into better meadow than any you now have and supply the contiguous parts of Cumberland with the choicest hay, in quantities to which you are not used.

I shall now begin to generalize and to try how the introduction of this new vegetable, is likely to affect the agriculture of your country.

This when communicating with you, becomes a ticklish subject; I know that agriculture has been long your favourite mistress; that your time and your attentions have been long dedicated to her, that she had the command of your purse, and that you have been indefatigable in your exertions for her improvement, and have spared no pains in setting her off to advantage, anxious that she should appear to

the eyes of others, as amiable and interesting as she does to yourself.

But like many other passionate lovers, you are consumed by jealousy, every thing that appears, presents itself in the shape of a rival.

The army, the navy, commerce, manufactures,—our colonies, all employed to defraud your mistress, of the attentions you think due to her; all contributing to paralyze her exertions, by engaging those that ought to be her votaries in other pursuits.

How often have I heard you in your paroxysm of jealousy, descant upon her merits, and prove her decided superiority over all these rivals; showing clearly the prosperity, the wealth, the strength, the defence of the country were in her hands; and while there, our resources secure, as depending solely on ourselves.

I shall leave the defence of agriculture on these various topics in much abler hands, and content myself with showing that I am not a rival, but a most active and useful friend and associate.

In the first place I do not interfere with your territory; for I do not ask a single acre that you ever were in possession of.

As little do I interfere with you in the article of manure; never calling upon you for a single ounce, but this subject is of too much importance to be passed over by a simple negation.

How often have I heard you enlarge upon the infinite consequence of manure to the farmer? How did you numerous visitors as well as myself, admire the ingenuity with which you preserved every particle of manure, produced by your immense stock? Nor is this idea new to you, for Mr. Douglas tells us in his Essay, "the best and most recent writers on rural economy, Mr. Curwan and Mr. Brown, have particularly adverted to the subject of manure."

And Mr. Mure, in the same transactions of the Kirkcudbright society, says "It should be a principal object to have the land as fertile as possible, which is not to be obtained without the greatest possible quantity of putrescent manure."

What then must Mr. Mure think on the introduction of fiorin culture, which without calling for a particle of putrescent manure, gives over to the agriculturist for his other purposes, every pound of the putrescent manure, which it must necessarily produce in such immense quantities, requiring merely, peat, ashes and running water.

Let us try in your other agricultural practices, whether the introduction of fiorin will be found to impede or assist you.

The most striking difference I observed, when with you, between English and Irish agricultural practice, seemed to consist in your great fondness for house feeding, whether by green crops or dry food, what a prodigious stock did you maintain, and what quantities of dung did they produce.

Our hospitable friend Mr. Boyd, of Merton Hall, president of the agricultural society of the shire of Wigton, boasted to us of the great stock he kept on a very few acres by green food.

You both complained of the failure of your green crop early in September, and wished much for a resource in that period.

Is it not at this moment that fiorin comes forward in great luxuriance, and improving every moment, continues to afford an inexhaustible stock of the richest green food until the end of April?

It is unnecessary to press this subject, the benefits be derived from fiorin with a view to house feeding, are so obvious.

The most knowing agriculturists strongly recom-

ment that measure, and how can they be so well enabled to carry it into the most extensive practice, as by the introduction of a vegetable affording quantities of food, green and dry, far greater than any other, and on much cheaper terms?

In the still for n has not yet been tried, but there can be little doubt that a richer, and more succulent hay, abounding with saccharine matter, far more than any other, must also have greater fattening powers.

I do not expect that any dry food, will bring on cattle so rapidly, as mangel wurtzel, Swedish turnips and potatoes; but this winter having endless abundance of fiorin hay, I shall try experiments on mine by lessening their allowance of root food, and greatly increasing their quantity of hay.

When I proceed to generalize still further, and to detail the advantages the state itself will derive from a more extended introduction of fiorin culture, I fear that at length you and I must become actual rivals. In fact we are already so, for before I had the pleasure of your acquaintance, the regular deficiency of our grain crops and their inadequacy to maintain the population of the country, with the ruinous effects felt, and threatening to be increased by heavy importation: had called us both forward, and induced us separately to propose measures by which present evils would be abated, and future calamity prevented.

You propose two remedies either of which (as you clearly demonstrate) would separately and distinctly, answer the desired purpose, of bringing up the food to the measure of the population without adopting the abominable resource of bringing down the population to the measure of the food.

You prove that a practicable and even easily effected extension, of our present agricultural field, would soon pour in quantities of grain sufficient for our consumption.

And you prove also, that by more general adoption of the improved system of agriculture, and attention to the practice of the most skilful in that branch, without extending our present field, our tillage would be so much increased, and our crops so improved, as completely to supply our present deficiencies.

I have laid before the public a plan of (which you were so good as to accept some copies) that if adopted would effectually prevent the recurrence of scarcities, without the necessity of flying to importation, the effects of which are so heavily felt and prove fatal that if persisted in, the consequences may be fatal.

A plan by which even under the present system of *poor laws*, the effects of this unhappy code would be so modified, that their pressure would be scarcely felt, and whose operation would be so rapid, as instantly to avert the impending danger.

When, as this danger of famine, started for a time by ruinous importation may be; I am sanguine enough to expect that by a spirited, and extensive introduction of Fiorin Grass, and that by its aid alone, we shall be able not only to bring up our food to the level of our population, from which it is so far short at present, but also to have inexhaustible resources ready for the population (which we know to be increasing) what ever rising demands may be.

To establish this paradox, I shall assume for a moment, that the value of the great value of this grass has become general; that its enemies are converted into its friends, and following your example are making advances for further incredulity by present zeal, that proprietors are become sensible of the great additional value their wild estates will receive by the introduction of Fiorin culture; that a spirit is excited, exertions raised, and the agricultural time called into action; that a scene will be the result, beginning with Cumberland.

The same our *heathy moors* we viewed in our extensive tour, and which at first for fiorin culture, was so obvious to us both; will instantly be attacked; in every point of their richens, where continuity gives the land a colder access to them.

We shall see them immediately converted first into *Campy Phlegm*, and when ashes are procured in sufficient quantities, a great sale follows, and soon after a luxuriant meadow crop, growing hay in quantity, and quality, far beyond any ever known in Cumberland.

These are immediate, and necessary consequences of the assumption I have made, let us try the more remote ones.

Your Cumberland meadows that hitherto have supplied you with hay at the average rate of one ton and a half per acre (your own estimate published some years ago) unable to contend in the market with your peaty moors producing 6, 7, and 8 tons (rates for which I pledge myself, and also better hay) must try some other crops, they will be given up to the plough, and your agricultural field so much extended.

Let us retrace our tour through Scotland I shall not draw comparisons, only say, sufficiently abounding with peaty moors.

Here I shall make no assumptions, we found the spirit of improvement in vigour, and for a considerable time already in action.

How much did our friends exult when they stated to us the regular increase in the custom house books of Liverpool, of the grain imported from Galloway.

How promptly could they accept my challenge to send committees over to Ireland to inspect my fiorin crops, to bear testimony to the quantities of hay I boasted of, and to ascertain the luxuriance of the fleeces growing on peat moors, similar to their own.

The report which these respectable gentlemen will make (as they tell me) that they came to *Clonfeckle* with sanguine expectations, which were far exceeded by what they saw, must rouse the most general exertions.

The effect on their meadows will be the same in Cumberland, but local circumstances will make their agricultural improvement take a wider range.

If the habits in Galloway of breeding, and feeding much cattle, is but restrained by the present scarcities of their provender, they will now crowd their hills in summer, secure of abundant fodder to bring their cattle to in winter.

Hence an enormous increase of putrescent manure, which will enable their ploughs to ascend their hills, and to encounter their peaty moors and I hope with the same spirit we found actually exerted by our hospitable friend, Mr. Boyd of Merton-Hall—and now the Liverpool returns of imported grain from Galloway, will be increased ten fold.

You and I too, will be affected by these measures: we shall have additional motives for making the visits we have mutually promised each other, we shall as we pass, inspect the improvements we claim to have encouraged, we shall exult in the rapid diminution of the heathy moors on our road; we shall enjoy the society of our Galloway friends, and we shall tempt them to revisit Clonfeckle and Workington-Hall, where I was once so happy, where I formed so many valuable acquaintances, and where we all received so much instruction.

Ireland too will receive no small share of the benefit derived from the introduction of fiorin; she has been admitted in parliament to have ministered steadily; and on a great scale, to the necessities of England in her dearth of provisions.

How much more copious must her contributions be, when the hay for Dublin, shall be furnished from the wet, and heathy sides, of Wicklow Mountains; and the extensive and rich meadows in the vicinity of the city employed in growing wheat.

Nor will this change of culture be local but general; with what exultation do I look down from the Marquis of Hertford's extensive meadow he indulged me in planning with fiorin, on the wet and peaty top of his mountain above Belfast.

The vale below of the highest verdure, clothed now with rich crops of hay, must soon submit to the plough; for how can they sustain a contest with the *Alpine Rivulets*? they themselves paying 3, and 4 Guineas per acre rent; expending all their dung on their meadows and purchasing whatever more they can get, at a high rate while their mountain neighbours, paying 5 or 6 shillings rent, manuring with ashes burned on the spot, or availing themselves of their numerous rills for the purposes of irrigation; raise crops of hay treble the amount of what their rivals below can produce, after all their expense and exertions.

I shall be told that although mountain and moors may abound in Ireland, in Scotland and the north of Eng-

land, yet much of this last country, is deprived of these advantages, and must seek for hay from grounds adapted to every other production.

Are there not Marshes, Heaths and Fens, scattered over most parts of England? now of little value, and I have often boasted there was not an acre in Britain upon which I could not engage to produce luxuriant crops from this accommodating vegetable, adapted by nature to all soils, all climates, and all altitudes.

I am aware there are extreme cases in which the expense would exceed the profit; but it is not with these we would commence; was it convertible into valuable meadow by a thorough acquaintance with the nature and habits of fiorin grass abound every where.

Even these at present must be left out of the question, the case is too urgent, to await for experiments upon powers the alternative of famine, or ruinous importation is immediately before us, the remedy must be prompt and the sources whence it is to be derived, unquestionable; I shall therefore fix upon a description of ground where capability of producing grain of every description will not be denied to me; I mean your meadows.

These in England and Wales are stated to amount to six millions of acres; by a trifle less than one half the land consigned to agricultural purposes, that is:—11,500,000 acres.

Through this whole memoir I have breathed hostility against these meadows; labouring to restore them to tillage, and the rotation crops, so beneficial to the agriculturist; I have endeavoured to supersede the necessity of giving up our best grounds to the production of hay, by finding that indispensable necessary for our domestic animals, on less valuable grounds.

But in some parts of England, hay can be raised from meadows alone: let us see how the introduction, or rather the substitution of fiorin, will operate here.

One acre of good common meadow produces two tons of hay (for I shall not insist on your low average) a good acre of fiorin from 6 to 8 tons of better hay; one acre therefore laid down with fiorin gives as much hay as three in the old way, of course for every such acre, two others are consigned to the plough.

This is too plain to require further illustration; it only remains to inquire how many acres of meadow when broken up for grain crops, will be sufficient to cover the deficiency occasioned by the failure of our crops in the worst, and most inclement season, and if it shall appear that by the introduction of fiorin so many acres must necessarily be added to our present agricultural field, I shall have performed my promise, secured the nation from the danger of famine, superseded the necessity of importation, and brought up the food to the level of the population.

And should the quantity transferred to tillage, exceed what is necessary to cover deficiencies, I have performed the remainder of my promise; and secured a resource for increasing population.

I have assumed a high opinion of the great value of fiorin grass, to be universally established. That agriculturists (without carrying their views further) are convinced that they will derive great benefit from its cultivation both as hay, and winter green food. That landed proprietors are well aware of the great additional value their estates will receive, from the general introduction of fiorin;—that they set the example by their own exertions, and stimulate their tenants by every reasonable encouragement; not indeed to the extent I heard you go; when from your chair, you promised your numerous tenantry present, that if they would lay down some of their land with fiorin, should their crops fail, that you would repay them the whole expense they had incurred.

What effects may we not reasonably expect from exertions so roused?

I shall not calculate upon the general increase of agricultural produce, from the quantities of manure derived from the great additional stock of cattle which the luxuriance of fiorin will enable us to maintain.

Nor upon the increased importation from Ireland, and Scotland; countries affording more extensive fields for fiorin culture, and of course likely to have their agricultural produce increased on a greater scale than in England.

[To be continued.]

FOR THE AMERICAN FARMER.

On reclaiming Salt-Marshes.

By S. Swartwout, Esq. of New York.

Being answers to certain queries on that subject propounded by Doct. Thompson Holmes, in the 32d. number of the American Farmer.

New York, Nov. 13, 1819.

DEAR SIR,

Your letter of the 30th ult. enclosing a communication from Doct. Holmes on the subject of reclaiming marshes, was sent to me a few days ago, by our mutual friend Mr. Haines. Having been very much engaged for the last ten days past, I could not sooner comply with your request. Nothing, I assure you, could afford me greater pleasure than to contribute my humble mite towards the laudable object, which you have manifested so much zeal and ability in promoting "the improvement of the agriculture of our country." The interchange of opinions, and the communication of practical results upon so important a subject as agriculture, cannot fail to produce the most beneficial effects to the country at large. Individuals are constantly making changes and improvements. To know the course and termination of these trials may induce similar experiments, or operate as a warning to the most sanguine dispositions to avoid the expense and mortification attendant on defeat. Our agricultural works afford us a great deal of valuable information upon almost every subject connected with the art, but I know none which treat upon the subject of embanking marshes. Besides, their publication being periodical and at distant periods of time, and their circulation limited, I consider your journal, affording as it does constant and almost daily information, as an invaluable acquisition to the enterprising part of the community; and permit me here to tender you my thanks for the information and pleasure, which I have derived from the perusal of your interesting paper.

I am happy to perceive that intelligent individuals of enterprise and wealth, are directing their attention to a subject of the greatest consequence to the welfare of the Atlantic states, the reclamation and cultivation upon the seacoast of the most valuable portion of our domains. The immense tracts of marsh to be found all along the coast, and on our rivers, could not fail, when thoroughly recovered, to produce the richest and most inexhaustible arable and pasture grounds. This fact although generally known or admitted, is nevertheless true, and one of the greatest importance, especially when taken in connexion with their proximity to an eternally increasing market.—What consequence is it to the farmer in the interior, if he can raise 100 bushels of corn to the acre, or 3 tons of the best timothy, if he can procure for the one only 10 or 15 dollars, and the other perhaps not ten dollars. Agriculture when pursued with a view to profit, can never succeed remote from a market. And hence the importance of converting, if possible, every acre of water land on the sea-board, from Georgia to Maine, into tillable ground. And I am ready to venture the assertion, that no well executed and well executed design of converting salt-marsh into fresh meadow, if conducted upon

proper principles and firmly persisted in, has ever failed. Failures, no doubt, are numerous, but they are the failures of ill judged and improperly executed designs, and not the fault of the land itself. A badly constructed dyke, grounds not drained sufficiently deep, after being dyked, owing to a want of fall in the tides or other causes; and finally, the preceding objections out of the question, a want of judgment or diligence in the cultivation of the soil, must produce disappointment. But where the works have been made to exclude the water, and the grounds within are well drained and well cultivated, there is hardly a possibility of a failure. For ordinary marsh contains all the necessary ingredients of the most perfect soil.—Its composition, invariably to a certain extent, and almost wholly consists of the same materials as the alluvials of the interior; a deposition of vegetable and animal matter, with a due proportion of the sediment or wash of the river; and, I conceive, it can differ from them in no essential particular, excepting that in the first instance they are saturated with salt water. If this be excluded and the previously mentioned process be pursued, there is not a doubt but what the sun and rains of heaven will speedily convert it into beautiful land.

When we reflect that in Holland, England, France, Denmark and Italy, for ages past and at immense expense, the enterprising and indefatigable have pushed their improvements into the very Ocean itself, and converted the grounds beneath into the most valuable portion of their respective dominions—there cannot exist a doubt upon the subject. The vast labour performed and immense expense incurred in Europe could not, we know, be borne by the adventurer in this country, where lands are, as yet, cheap and labour dear. But in the vicinity of large towns or a market, and where the expense to be incurred would be comparatively small, there could not, I feel persuaded, be a more safe or productive improvement. It is true there exist, at present, many dreadful forebodings of the impossibility of converting those offensive wastes, those desolate regions, into wholesome districts and blooming fields, but they are idle; they are founded on ignorance or envy, or have been created by partial defeats or illiberal conjectures. The contrary has been proven to the conviction of thousands, and thus, is the goodness and bounty of the Creator displayed, in rewarding the toils and solicitude of the enterprising and persevering.

The destruction of a dyke from the violence of a tornado, is no more an argument against the principle or practice of dyking, than the prostration of a dwelling or a field of grain by the same tempest, is evidence of the particular displeasure of the Deity, or of the folly of the husbandman. It cannot be pretended that the works of art any more than the productions of nature, are or can be, exempted from the operation of natural causes.

It is proper, however, to remark that the inexperienced who undertake improvements of this description, usually defeat their object, in the first instance, by making the dykes too small. As it is commonly considered an experiment, as likely to fail as to succeed, the projector naturally feels a reluctance to venturing a large ex-

penditure upon so uncertain an object.—hence the many disheartening failures, on a first trial, by the breaking in of the bank alone.

But I fear I am in danger of exhausting your patience; and yet, I have a great deal to say in reply, to the numerous questions propounded by your intelligent correspondent. I shall answer them in order as far as my experience enables me, and with as much brevity as possible.

First.—Have reclaimed marshes succeeded in the productions of artificial grasses, where not more than 20 or 24 inches of fall could be commanded at any time; and where during the prevalence of particular winds which maintain an unusual and protracted elevation of the tides, not more than half that fall can be had for several days in succession?

The first question I am unable to answer.—We consider it necessary to drain full 3 feet, and my impression is that 5 feet would be better than 3. Our grounds are drained 3½ and 4 feet, and we have observed uniformly, that the best and deepest drained lots, were the most productive—where the tides fall no lower than 2 feet below the level of the marsh, wind-mills might be made use of to great advantage.

2nd.—Have reclaimed marshes been made valuable for grass, whose surface consists almost entirely of a mass of fibrous roots to the depth of 8 or 9 inches; and if so, was the turf pared off and burnt, or was it permitted to undergo a gradual decomposition, after the natural grass was destroyed?

3d.—In grounds thus covered with turf has the plough been used to prepare them for the reception of grass seeds; or has it been found sufficient to tear the surface with harrows, and then to sow the seed?

I shall couple my answers to both.—Our grounds consist of clay, blue mud, mellow ground and tough roots. When we commenced ploughing, the marshes in many places, consisted entirely of tough roots, to the depth of from 4 to 20 feet, and yet this ground by ploughing, in 36 months from the time of embanking, produced from one to two tons of timothy hay to the acre—and upon some lots only harrowed with a strong iron toothed harrow, we had nearly as good grass, the same season. But we prefer the plough, for when the sod is once fairly broken, you may consider the land as in a direct road to permanent improvement. These experiments were made upon the most inveterate salt-marsh.

4th.—May it not be received as a tolerably correct standard, by which to ascertain the value of marsh soil, that the nearer it approaches to a pure blue mould, or, in other words, the shallower the superficial stratum of roots, the better it is?

We prize the blue mud very highly, and it is the general opinion, where it is found, that there the soil is the best. But our turf grounds (so called in contradistinction to the blue mud) after having been ploughed and cropped two seasons, have turned into earth, and became beautiful mould, resembling garden ground—I had as fine wheat and rye as any in this country, this season, upon this description of land; and I had corn also. But the ground was well drained. The recovery of marshes, I conceive, depends upon two achievements only, the exclusion of the floods and the deep draining of the land. Where these are effectually done the cultivation of the soil will naturally follow.

5th.—In reclaimed marshes, whose situation does not admit of any permanent current of fresh water through their ditches, and where, of course, during periods of drought similar to that of the late sum-

mer, the salt water which passes through the sluices, occupies the bottom of their ditches in an undiluted state, will grasses succeed?

This question, I am unable positively to answer. 6th.—Are there any sluices or trunks, with valves opening toward the salt water, so tight as not to admit some salt water?

7th.—What is the best plan of their construction?

As our tracts of marsh are large, one containing 1000 and the other 300 acres, they require large sluices, as well as a number of them; we have 7, and all of the same dimensions. Being made with great care, they effectually exclude the tides. The following we have found to be the best construction. A sill-piece 24 or 25 feet long, of pine or hemlock, a foot square, is sunk, with its ends in the marsh to the depth required—into this two gate posts 9 feet long, are morticed, with a beam across at the height of 4 feet, so as to leave the race 4 feet clear—two other upright pieces of the same dimensions as the gate posts, are also let into the sill at 4 feet from the gate posts, and a cap-piece as heavy as the sill, surmounted on the top to bind the whole frame. Long planks, $1\frac{1}{2}$ inch pitch pine are found to answer best, are now driven into the mud, (so as to be nailed against the cap) from the edge of the gate posts on either side, to the extremity of the upright—in order to make the work more secure, these are usually doubled. The race way is now spiled with the same kind of plank, on each side of the sill piece, and driven as low as a maul will force them—after which the floors, about 4 feet long on either side, are laid, and for the greater security, they too are spiled at the outer end.—Such a sluice, with a gate that fits well, will not leak a barrel in a tide—if chips or grass get between the jaws and the gate, they are removed when the tide falls, but a common wicker grating, will effectually prevent accidents of this sort.

8th.—Has it been observed, that when high tides prevail several days in a dry time, and when the excavations, so common upon the surface of many marshes, are laid dry by the evaporation of their water, that an oozing of salt water takes place through the deep fissures made by the sun in the mud of their bottoms, so as sometimes to cover them 2 or 3 inches deep, in the lowest parts?

I have no recollection of having observed anything of the kind.

9th.—Does not the mud upon the outside of all banks receive deep fissures, whilst their moisture is evaporating by the heat of a summer's sun?

Unquestionably—but where the dyke is large, the effect will not be injurious.

10th.—Is it common or necessary to fill up these cracks with additional soft mud plastered over them, or are they permitted to fill up by the gradual pulverization of the mud on the surface by a winter's frost?

It is necessary, upon all occasions to keep the bank in order; if these openings endanger it in the least, they should unquestionably be repaired immediately.

11th.—What length of time will be required where the banks and sluices are completely ti to freshen and prepare very salt marsh, for grass seeds?

12th.—Will this process be accelerated by loosening the surface with a plough; and has this operation been tried?

I must beg leave to refer to my reply to the third inquiry.

13th.—At what distance apart are the interior

draining ditches usually opened in marshes not boggy, or even soft upon their surface; and what are the common dimensions of ditches, esteemed effectual, and sufficient for the purpose they were intended?

There is not, nor can be a rule to govern in this case. The judgment of the proprietor must determine—our lots vary in size from 1 to 10 acres—care should always be taken whether the lot is small or large, that it be well drained, for unless it is well drained, nothing will grow well upon it: our great leading drains are 8 feet broad and 4 feet deep.—The lateral ditches from 5 to 6 broad, and 3 deep, with only space enough at bottom to scour them advantageously.

14th.—Are not small superficial drains of an angular shape, like the ditches, one foot wide and 7 or 8 inches deep, very serviceable in grass lands made upon marshes?

They might be, I should suppose where the land is perfectly freshened, but I doubt if they would before—the foul and noxious water, unfriendly to all kinds of vegetation, can only be removed by deep drains.

15th.—In what manner do the most approved bankbuilders, dispose of their superficial sods in embanking a marsh, whose surface is composed of turf?

Bankers always, I believe, face their mound with these sods, cut with some care and laid up with caution. They brace the work and hold the soft mud until the whole settles into proper form.

16th.—Is it necessary in very solid marsh, to allow more than 4 or 5 feet, from the edge of the ditch to the commencement of the base of the bank, which is not required, from its situation, to have more than 8 feet base and 4 feet elevation; especially when the water upon the outside is perfectly salt, and no muskrats apprehended?

17th.—Is it not invariably improper to open two ditches, one on each side of, or near to, the bank? Or, in other words, is it not better to obtain the mud, with which the bank is constructed, from a single exterior ditch?

Where the mud is solid and there is no ditch on the inside, I see no objection to cutting within five feet of the bank; but I would by no means, cut deeper, so near, than one spit of mud; nor would I on any account, make a ditch on either side of the bank, not even on the outside. We leave 30 feet, and sometimes 40, between the bank and river, and cut the mud promiscuously, always avoiding deep holes for fear of the rat; and where the bank is made with the above care, there is not the least danger from them.

18th.—Do the artificial grasses in reclaimed marshes upon the sea-board, invariably perish when inundated accidentally for 6 or 8 hours by salt water, very little diluted, and where little or no rain has fallen to saturate the earth with fresh water, immediately before such casualty?

I presume not; it is said they do not; where such casualties have happened, it is represented that the most beneficial effects have followed.

19.—Are not grasses considered essentially the growth of fresh, unsalted ground, much more capable of sustaining life and vigour after such inundations of salt water, than is generally imagined especially in old meadows having a condensed growth of timothy?

20th.—Is there any one of the artificial grasses, endowed in a superior manner, with the power of resisting the injurious effects of salt water?

I am unable even to give an opinion, upon these two subjects.

21st.—Is it not much more difficult and hazardous, for these reasons, to attempt the reclamation of marshes situated immediately contiguous to the water of the ocean: and do not breaches frequently occur in banks from violent tempests, or from the perforations of muskrats?

It is both difficult and hazardous, and unless the works be made sufficiently strong, I consider it an idle undertaking. If the marsh be overflowed with water ever so salt, and the perpendicular rise of the water over it were 20 feet, there cannot exist a doubt, I conceive, but what a dyke might be constructed to keep the tide out, and that the land might afterwards be drained. The expense, no doubt, would exceed the profit; but then, I think it could, nevertheless, be done and be made fine land of.

22d.—Is not salt water frequently admitted through the valves of the sluices, which are prevented from closing by extraneous bodies being occasionally lodged in them?

23d.—What precautions are found most effectual to prevent these accidents?

Answered in 6 and 7.

24th.—What meadows have been inundated by the late violent tempest? Were their banks broken down, or did the water overflow, without destroying them?

Our's were overflowed in September—300 acres were flooded a foot deep, by the breaking in of the dykes in two places; owing to springs of fresh water, near the fast land under the bank; the storm was frightfully severe, and the tide rose higher than had been remembered for fifty years. The breaches in the bank were almost immediately repaired, but the tides, owing to the continued violence of the winds, could not fall and the grounds remained, in consequence, overflowed two days; after that it gradually disappeared, and the fourth day the surface was again bare. What little timothy the drought spared the salt water has not affected injuriously, and the grain sown since the flood, is of a good colour and looks thrifty.

I am really ashamed of this letter, and yet I could not make it less tedious, for the details of such a communication are enough to exhaust the patience of ordinary readers. Such alone, I presume, as feel an immediate interest in these minute particulars, will bear with its prolixity. It is to these only, that such letters can be supposed to possess any interest. If, therefore, any of your readers can extract from all I have said, sufficient to guard him against a single expensive error, I shall be recompensed for my trifling exertion; and you, my dear sir, will find ample compensation in the reflection that you were the instrument of it. I desire, most ardently desire, that my favourite theory should obtain proselytes; I feel a conviction, that the subject I have been treating of, will attract increased attention from the public, until every acre of villainous sunken bog in the country shall be reclaimed and converted into the richest arable and pasture grounds. The subject is one of the greatest importance to every state bordering on the Atlantic, and my only regret is, that you had not applied to some one, not more disposed, but more capable of furnishing the desired information, than

Dear Sir, Your obt. servt.

SAMUEL SWARTWOUT.

J. S. Skinner, Esq. Baltimore.

For the American Farmer.

Cedar Park, Nov. 8th, 1819.

MR. SKINNER,

Dear Sir,—I did not receive, until the 6th inst. your favour of the 29th October, requesting some seed of the large Pumpkins, grown this year on my Farm at Westbury, the account of which was published in the 25th No. of the American Farmer—24 of them were sent as when proposed, to the Baltimore market, but the purchasers being disappointed in seeds, which proved deficient in quantity and quality, whether from drought or some intrinsic defect (I am unable to determine, as I never cultivated them before,) I forwarded a parcel of seed to Mr. Thomas Norris, of Baltimore, to be distributed among them. I now send you a proportion of what I reserved. A gentleman, who I believe introduced them here from Boston, tells me, that they are more properly termed the *Persian Squash*. They produce but few to the vine, but planted close, say 4-12 feet distant in rich soil, I am persuaded that in a favourable season they will nearly cover the ground with fruit. I tried this year at the Farm on which I reside, a few rows in a cut of 24 acres of corn, the rest of which was planted in common Pumpkins, two seeds in every second hill, at 4-12 feet, say in squares of nine feet. The corn was planted about the 15th of April, the Pumpkins about the 15th of May—the large Pumpkins appeared to yield as well as the common, and those gathered weighed from 30 to 100 wt. each; whilst the common were from 10 a 50 wt. the 24 acres produced an incredible quantity, many thousands—they have been used by my people at will, for themselves and their hogs, and from 2 to 3 ox cart loads a day have been distributed to cattle, hogs, and those horses that would eat them, (which all thrive rapidly,) and collected in heaps and covered with corn stalks, they will last, I expect, till the new year. The large Pumpkin proves less palatable than the common, and is more susceptible of injury from frost, and indeed has no advantage but its superior size and ripening earlier. The Pumpkins had no other cultivation than what was necessarily given to the corn, and being planted a month later, the vines were not in the way of the last ploughing. I do not think that I made an ear of corn, less for the additional crop of Pumpkins, which, when the corn was stripped, appeared at a distance almost to cover the ground—I tried the Baltimore market with about 1000 very fine, but the price and demand were too limited to make it an object; but at \$5 per hundred, they would have yielded more than \$100 per acre.

On a rich part of the corn field at Westbury, in addition to Pumpkins, I scattered, about the 10th of July, Ruta Baga seed.—The season proved very fatal to that crop, and as it was sown too thick, and never thinned, the roots were generally small; but the experiment convinced me, that the three crops may be raised together with advantage on the same ground; the product of corn from the whole cut, exceeded eight barrels to the acre;—the Pumpkins very fine, the Ruta Baga indifferent.

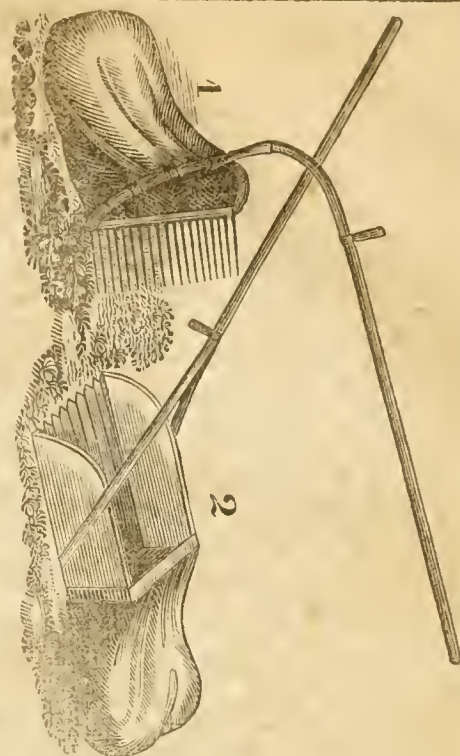
The American Farmer edited by you, pleases

me more in its plan and execution, than any other cultural publication I have seen. It promises to collect, preserve, and diffuse useful information; to bring into general notice and use the best agricultural implements and machinery, and to introduce valuable seeds and plants not hitherto cultivated among us, and the best kind of those that have been. That I am not myself a subscriber is, because my son, who lives with me, is; but I file your papers and must apply for numbers 19, 21 and 22 which from some casualty never came to hand, and I would suggest the utility of a periodical index. That I am not a contributor, is, because my experiments and observations have not been digested or preserved with sufficient accuracy; and indeed, from long desuetude I have lost the habit of writing, and now shrink involuntarily from pen, ink and paper;—but to prove my favourable disposition, I will add that in your last number, you have given a good plate of a very valuable Horse Rake for gathering clover seed, which you suggest in a note, must prove defective from chocking.—I have longed used it.—The second crop of clover should be left to become perfectly ripe, when it will appear black and crumple to the touch; the machine should be used when the dew is off, say after 9 or 10 o'clock; the driver should be furnished with a light hoe, which lies in the machine, and when the teeth begin to choke, he must clean them by drawing the seed and chaff into the body, and continue this till the body is full, when he empties it on the ground and continues his course, taking care always to make his deposits contiguous to each other, forming lines through the field: along these, the cart afterwards moves, when they are collected and trodden in; but these masses must be opened before finally put away, or they will heat and the seed be destroyed.—These machines, with a man and horse will collect from 16 to 20 flour barrels packed full, in 6 or 7 hours, equal to 4 or 5 bushels of clean seed.—I also used hand-rakes, both iron and wooden, which suit farmers on a small scale still better. (See cut.) The iron Rake No. 1, requires a strong man to carry it 6 or 7 hours. The wooden Rake No. 2, may be used by a child of 9 or 10 years. It is formed of three thin boards of oak or pine—the two side boards 18 to 20 inches long, 9 broad and 3-4ths thick—the bottom board a foot broad, armed with teeth eight inches deep and 1-4th of an inch from each other, and pointed—the bottom board does not extend within three inches as far back as the side boards, and is bevelled off in the middle parts, to facilitate the falling off of the seed and chaff into the bag; but this must at times be assisted by the hand—the bag of linen is attached to the back part of the machine, and goes over the top and bottom. A boy or girl of 10 or 12 years old, in 6 or 7 hours will collect 4 flour barrels full, well packed, (equal to a bushel of cleaned seed) which should be placed conveniently in the field, and being of small bulk do not require further curing.—These hand machines may be dragged over the cleanest parts of the clover, so as to avoid the seeds of weeds, which the horse rake collects indiscriminately.

I remain,

With esteem, &c.

JOHN F. MERCER.



Note by the Editor of the American Farmer.

In addition to the conclusive testimony of colonel Mercer, as to the practical utility and efficacy of this machine—we offer the following extract of a letter from Maj. T. Emory, of Queen Anne's county. We are glad to have our misapprehensions thus so satisfactorily removed—for now, the cultivators of land in Maryland, no longer have no decent excuse for continuing to buy their clover seed at an enormous expense from Pennsylvania, or for neglecting to sow it, on account of the great expense of purchasing seed. This implement, so well and minutely represented in page 253 of the Farmer is so simple that any rough carpenter may make it; and those whose operations are yet in a more contracted scale may have recourse to Col. Mercer's hand-rakes—he who would live by the plough, and would attempt to execute any plan for the permanent improvement of his farm, without any reliance on clover or other upland artificial grasses—we would advise to burn his plough and call on the sheriff to sell his farm at once: for sooner or later it must come to this.

Extract of a letter from Maj. T. Emory.

"I observe in your last number a drawing of the machine for saving clover seed, of the efficiency of which you seem to entertain considerable doubt. I have used it for six or seven years, and can confidently assure you that it is completely adequate for the purpose intended. If the clover is ripe and dry it will gather off perfectly clean and with great ease; but if it is not ripe enough, or, as is sometimes the case, a later growth is pushed up amongst the ripe, then it chafes a little, but is freed in an instant by a brush or two of the hand. I have constantly viewed it as a simple and most excellent invention, made by whom I know not. I observe, also, that two of your correspondents are at issue on the value of the ripple grass, or narrow leaved plaitain. I have long thought this grass too rigorously condemned; and have agreed with Mr. Kirk, at least so far as to determine, that I would not eradicate it if I could.

I remain, very truly,

Yours, &c.

THOS. EMORY."

Poplar Grove,
16th Nov. 1819.

FOR THE AMERICAN FARMER.

New London, Nov. 10, 1819.

MR. SKINNER.

Dear Sir: Enclosed is a small specimen of the Leghorn braid, manufactured in Hartford County, in this state. It has been in my hands nearly a year; and has lost, perhaps, some of its original whiteness: it is, also, of the coarsest quality, being one of the first experiments to imitate Leghorn. Under all these disadvantages, you will be gratified to see that the sample, without doubt, is the *perfect* Leghorn.

I regard the discovery as important to our country—the article being in extensive wear; but there can be no advantage derived from this discovery, unless our ladies can have spirit, economy and patriotism sufficient to encourage the manufacture of this American Leghorn. As the subject may be interesting to some of your readers, I will briefly state all the information I possess in relation to it; and which has been furnished to me by the young ladies who first made the discovery.

The grass (of which I also enclose you a specimen) used in the manufacture, is found in great abundance on the low grounds on the margin of Connecticut river; it is also found plentifully in some parts of Litchfield county; and, indeed, if a strict search was made, I believe it might be found in all parts of our country. I do not know the botanical term for it. It is known, generally among our farmers, by the name of "*tickle mouth*"—although some call it "*wire grass*." It is found on the low grounds: it grows from one foot and a half to two feet and a half high; cattle refuse to eat it; when it is fit for gathering, it has a light yellow colour. Care should be taken not to gather it when too green—nor when too dry. In the first case, the colour will not be good; and in the second, the braid will prove brittle. The round spires are the proper ones to be used; care is required to select them as near one size as possible. After all that can be said on this subject, much will be left to employ the genius and judgment of the ladies.

I will not endeavour to instruct, respecting the braiding—those who are disposed to make the experiment, can obtain a piece of the imported braid, and dissect it.

I have been told, that where this grass cannot be found, rye straw, the part next to the heads, will answer for a good substitute—whether this is a fact, I am unable to determine.

I am, sir,

Your obt^d serv^t,

SIMEON FRANCIS.

* It is still very beautiful, and fine enough for a Princess—nay, more! for the Presidentess of this Republic. The Editor of the Farmer has deposited this handsome specimen of American female patriotism and ingenuity, in his Cabinet of domestic productions, along with the sample of superb blue cloth from the factory of Mr. Dickinson, of Steubenville, Ohio.

Some ladies have thought the American Leghorn very beautiful, until they were told it was American; then they could discover that it was not quite so fine as they at first thought. Thus are our judgments too often perverted by prejudice.—*Ed Am Farmer.*

FOR THE AMERICAN FARMER.

DOMESTIC INDUSTRY.

No. IX.

Baltimore, Nov. 1819.

Mr Skinner: We are told that the cheapest, the easiest, and the best mode of collecting a revenue is from imports. Whether it be the cheapest or the easiest, I shall not inquire: but that it is the best, I positively deny. Our duties on imports, average about 20 per cent., that is, on every hundred dollars' worth of imported merchandise, twenty dollars are assessed, and collected for the support of the government. Consequently the price is augmented from 100 to 120 dollars. It follows, that on every 120 dollars' worth of imported articles, which we purchase for consumption, we pay a tax of 20 dollars, and the merchant or storekeeper is the collector. Now, what great difference is there between paying an annual, or semi-annual tax, proportionable to our usual expenditure, to some person authorised to receive it, and paying the same amount in piece meal, to every merchant, storekeeper and dealer, from whom we buy a single article of foreign produce or manufacture? But there is an immensely great difference between paying a tax of 20 dollars directly to the government, and 120, of which 20 go to the support of government and the remaining 100 go out of the country, never to return;—to support foreign industry and to paralyze our own. Suppose a farmer had 120 dollars to spare, and that he paid 20 dollars of it as a tax, and lays out the 100 in domestic goods, of no more real value than could be procured for 120 dollars of foreign wares; in this case the 100 dollars will stay at home, and be distributed between the storekeeper, the manufacturer, the labourer and the farmer, or other person or persons who furnished the raw materials; and finally have a tendency to increase the price and demand of every article the farmer has to sell. Future generations will read with surprise, the history of our policy, and smile at the simplicity of those who, in order to apply 20 dollars to the support of their own government, were obliged to transport 100 out of the country. But when they read a little further, and learn from the historian, that thousands of people were, at the same time, in want of bread through the want of employment, though flour was only five dollars per barrel, and tens of millions of dollars were exported annually, to pay for working up our own raw materials in other countries—the smile will turn to an expression of astonishment. "What fools!" they will exclaim, "to raise a revenue of 20 millions, they sent off 100, to encourage industry, and to support their rivals in other countries!" The subject is too mortifying to dwell on for a moment: let us quit it then.

Let none suppose that I wish this to become a manufacturing country, to the extent that some others have. What I contend for is, that it ought to manufacture its own raw materials, to the extent of its own consumption. Till that be done, commerce, agriculture, and every branch of domestic industry, must languish, and the wealth of the country decrease in proportion to its increase of population.

Let none suppose that I am an enemy to commerce. I sincerely wish it prosperity: and am fully convinced that, let other nations act as they will, the true policy of the United States is to give equal encouragement to agriculture, commerce, and manufactures: for then they will mutually aid each other; but if one of them be fostered, or neglected, it will produce a disease that will in time infect the whole three. Commerce has been fostered too much; manufactures have been neglected too long; hence agriculture, commerce and manufactures have all become palsied.

Yours, &c.

COGITATIVUS.

For the American Farmer.

Mr. Skinner.

SIR: The impositions which have been practised in the sale of Ruta Baga seed, have brought that important vegetable into great discredit. From the experiments which have been made in my kitchen, I have reason to believe it the most valuable esculent in this country. I send you the following trials.

To make a Ruta Baga Pudding.

One and a half pints of pulped Ruta Baga, 2 spoonfuls of wheat flour, 4 eggs, 1 1-2 pint of milk, and a table spoonful of butter. The pan greased and floured, and baked with a quick fire.

Another way.

One pint and a half of pulped Ruta Baga, a half pint of wheat flour, 4 eggs, a half pint of suet, 1 pint of milk, the pan as before.

Another.

One pint and a half of pulped Ruta Baga, five spoonfuls of flour, a tea cup and a half of beef marrow, 3 eggs, 2 tea spoonfuls of mace, and one pint and a half of milk, the pan greased as above.

The above were mere experiments. The puddings were excellent, and were eat with sauce. As to the mode of mashing them for dinner, on account of their dryness, there should be belonging to the kitchen a piece of wood, shaped like a mudler, which is used in taverns for mixing toddy, and enough milk to moisten them while mashing. As much butter as may be palatable when mashed.

EDO.

From the National Intelligencer.

On the Grape Vine,

With its Wines, Brandies, Salt and dried Fruits.

No. II.

The experiments made at Harmony in Pennsylvania, at Vevay, on the Ohio, and Harmony, on the Ouabache, both in Indiana, merit the utmost attention of the United States. It appears that in the present uncultured and uncultivated state of the country, Harmony, on the Ohio, in Penn. was probably too far north for making wine, though not for fruit. That Vevay and Harmony, in Indiana, are in more suitable climes for the wines, will appear from the following letter from a respectable gentleman at Vevay, to a very respectable friend of his, lately on a visit to Phila. It is dated on the 28th of Aug. 1819. The intelligent and experienced writer from Vevay, thus expresses himself: He "thinks the whole of Alabama doubtless better adapted to the culture of vines than the more northern country of the U. States; * because the

* Vevay, on the Ohio, is in 33 deg. 30 min. N.

two species of grapes that succeed in the United States are of the late sort, having not time at Vevay, to ripen. The Alabama season, being longer, will give more time, especially the Madeira grape, which gives the best wine of the two, where it can ripen and yield most. But it will not do at all at Vevay; and does better at Glasgow, Ky. The various gardeners at Kentucky can furnish some. Vine dressers would go to new vineyards from Vevay. They have had 300 gallons of wine per acre at Vevay; more, often 150; and 260 is a good crop. The Madeira grape would give more than the Cape of Good Hope grape where it would prosper, but must have time to ripen to be good. Of the labour, much may be done by women. They do about half. Then trim, make layers to fill vacancies, plough, harrow, hoe and carry the grapes and make the wine. None of these works are heavy. But trimming requires attention and discernment, for the dresser must look two years before him, when he cuts each scion; women seldom do it, though they work. He has seen many women do it as well as any man. A little work in vineyards is to be done at night with lamps. When the grapes have got to their size, the crickets (not of the house or field), in the night, the bark of the stem of the bunches and ring or girdle them so that they die. They increase the bunches rapidly. They must be watched and searched for with lamps, by night, and destroyed. He says the native vines will not do to graft good kinds of grapes on; he has tried it often, without success. Grape vines grafted on the same kinds do well yet they are a different tree, being dioic, while the vineiferous kinds are hemaphrodites. I have found the same wild vines in Switzerland, and the kind of sour grapes makes pretty good wines; but is smaller bearer than the grape vines. They are in Morero's vineyard, at Glasgow, Kentucky. The Spanish grapes of Mexico and South America should be tried. They have been long cultivated. He is sowing grape vines from the seed, to obtain flavour and quantity of wine. The vine is of long life, but it takes ten or fifteen years before it bears fully from the seed. Variety, however, is an object. Vines planted by cuttings, which have taken root freely in the first year, bear fruit in three years; in five they are full force. He has considered and inspected the vineyards of Europe, and the cultivation by the plough is otherwise. It is to be studied to save labour and make the greatest crops. If the feulant vert will grow as well here as in Switzerland, 300 gallons per acre might be made. They cultivate by the plough in Languedoc, about Montpellier and Lunel. We make wine here to be like Madeira, and sell it at 12 cents per quart, and \$1 25 per gallon; but do not make enough to send abroad, or to keep for aging. Morero made a cask of 300 gallons full of wine of last vintage, to be kept eighteen months or more years. He has seen wine (made of grapes, like Vevay) at Glasgow, (in Barren county, Kentucky,) better than Vevay wine. The grapes were gathered fortnight before the Vevay grapes. It is probable that wine of the banks of Tennessee will make 1-4 brandy; if of Cape of Good Hope grapes, common of Vevay yielded 1-5th; the best cider 1 10; so the best Burgundy wine, and that of the border of Lake Geneva in good years. The strongest of the wines that I know of, is that of the south of France and Spain, which yields 1-3rd brandy. The alluvial mode of vine cultivation at Vevay, Indiana, worthy of attention, being a combination of various European modes, and American improvements adapted to the country. Some young men bred at Vevay, would be useful in other places. Mr. D. says the blacks may be taught to cultivate vines. He runs and concludes the letter from the judicious farmer at Vevay of the United States, settled by persons from the original Vevay of Switzerland. It is very instructive and would seem to prove that, as so much of our country continues in the wood and forest, and with many undrained swamps, making a

Glasgow is in 37°

humid atmosphere, and a moist soil, Vevay, in 38° 5' is not yet perfectly so favourable, even as the vicinity of Glasgow, in Kentucky; where a dry, hard soil, occasions the grape to be free from injury by moisture of the earth, and of the air. Glasgow is also about one degree and one half more Southern than Vevay. These indications are distinct, nice, clear, and strong, in regard to the vine climate of our country, at present and in prospect.

In the hilly Spanish colonial country of North America, about the 29th degree of North latitude, South of the Rio bravo del Norte, there is authentic evidence, in a report to the government, that the vine grows well, though its culture was forbidden by the crown, produces good crops of fine wine, and supplies the province and its neighbours. That country being as far South as any part of the Florida, it is ascertained that, where this country has become, or shall be made dry enough and cleared, the vine region runs to the Southern limits of the United States, even if we should not maintain our right to Louisiana in extenso, in consequence of our offer to limit ourselves by the Sabine.

The most distinguished wine of Spain is the true and best Xeres, or Sherry of the district around the city of Xeres de la Frontera, in Andalusia. The vineyards of that district are, in situations corresponding in temperature with the most extreme Southern parts of East Florida and Louisiana. It is interesting to our inquiry, that all the Portuguese European wines those called by us the Lisbon, the Carcavello, the red and the white Port, or Oporto. It is observable also, that the Malaga, or sweet and dry mountain wines of Spain, long highly esteemed by medical men, those of Alicante and Catalonia, which three kinds we principally import, and all the Spanish brandies we consume, come from districts as far North as that of Xeres. The wines of Castile, and other interior districts of Spain, which are consumed at home, and are not exported, are from places also North of Xeres. We can have no reason to doubt, then, that, as our country now is, and shall in future be cleared and drained, and if ridges, hills and mountain sides, with South exposures, shall be carefully selected, the most southern of our states, territories, and districts, will be as suitable for the vine, its wines, and dried fruits, as the most proper and fruitful parts of the peninsula of Spain and Portugal. The works of travellers, agriculturists, and men of distinction in the arts and sciences, upon the subject of the vine and wines, and dried grapes of Spain and Portugal, are therefore strongly recommended, by our best interests, to the attention of our citizens, especially concerning the vineyards of Xeres, St. Lucar, Malaga, and Oporto. The Portuguese send to us no brandy; the Spaniards a little of that spirit which is not estimated as good. It seems from the excellence of the French. Cognac brandy, the best, and the farthest North of any denomination of brandy which we know, that the extreme South is not the most favourable for the delicacy, though it is for the quantity of that spirit. The Cotte brandy of France is not liked here, but it has been said that much Armagnac brandy is used in Paris. The celebrated French chemist, Chaptal, was a cultivator of the grape, and manufacturer of distilled and fermented wine spirits. He was a native of Montpellier, and took very great pains to improve the vine, and all its liquors, in that Southern region.

A Friend to the National Industry.

Philadelphia, Nov. 1, 1819.

Chaptal's writings on the subject should be in every planter's hands and in every agricultural and public library. The title of Mr. Chaptal's work is "A Theoretical and Practical Treatise on the culture of the Vine, with the art of preparing wine, brandy, &c. By Chaptal, Parmentier, and Dasseux. 2 volumes octavo, Paris A. D. 1801." In French Chaptal, P. and D. sur la culture de la Vigne, &c. Paris, 1801, 2 tom: oct.

Exports of Cotton.

From South Carolina and Georgia, from 1st October, 1818, to 1st October, 1819:

From Charleston, to all parts—Upland, 91,248 bales; Sea Island, 9865 bales.

From Savannah, to all parts—Upland 94,989 bales; Sea Island, 7489 bales.

The subjects which must necessarily come before Congress, at their next session, are of great importance, and will require the best talents, and firmest patriotism of its members to bring to such a conclusion, as shall be satisfactory to the public. Among these subjects, are that of—the Florida question—protection of domestic manufactures—a uniform currency—a uniform bankrupt system, which will be imperiously demanded, by some millions of petitioners—a revision of the Revenue Laws—concerning slavery—and though last, not least, concerning the mode, as well as terms and conditions in disposing of the public lands.

Bost. G.

THE FARMER.

BALTIMORE, FRIDAY, NOVEMBER 26, 1819.

THE POSTMASTERS, in the United States, at whose Offices, even a single number of the American Farmer remains uncalled for—are earnestly requested to send it back to the Editor. The recovery of the papers not taken up, if any, is the more important, as in every case of subscription, a complete file is demanded—each individual number, therefore, has its intrinsic worth to the Editor.

¶ We have been desired to make inquiry, whether any mill or other machine, has been invented for breaking up ears of corn, cob and all, without shelling. If any have been, we would be glad to be informed—and if none have, we would suggest the utility and probable practicability of a machine for that purpose. Could not one be constructed of cast iron, somewhat on the principle of the Plaster-mill?—for feeding live stock, it would be highly important.

¶ We will respectfully repeat the request, that as far as practicable each one of our present subscribers would add another name to our list. This would enable us to give a valuable engraving in almost every number—many of which engravings would cost us from \$30 to 50.

Present Prices of Country Produce in this Market.

Actual sales of wheat—On the 23rd and 24th inst. from Queen-Anne's and Caroline, Red-wheat; \$1 8 to \$1 10—No sales of white wheat, —Corn, 55 to 58 cts. Rye, 50 to 55—Oats, 40 to 42 cts at the wharf—up country oats 50 cts. between what is called country oars, and wharf Oats, sometimes called Eastern Shore, sometimes Virginia oats—there is a great difference as we are told, as well in the measure, as in the quality.—Maryland Tobacco, 36 hogsheads, sold the present week, for \$8 & 10—20 do. \$8 33 & 10 33—from Calvert county—Virginia Tobacco, 6hds., sold the present week, by William McDonald & Son, for \$8 & 8 50—Do. 2 hds. of very superior quality, for \$10.

Sixty head of fatted cattle, were purchased the last week, by Mr. John Rusk, for \$6—A so, twenty-two from Delaware, fatted by Mr. Estine, and of a superior quality, were purchased at \$7.

For whiskey, and flour, and North Carolina Staples, see our last number, page 273. No variations since—Hay, per ton, \$18—Straw, \$11—Country oats, 56 cts

[By a gentleman of acknowledged science and refined taste, in Washington, our attention has been pointed to some beautiful reflections on planting, in that chaste and classical work, the Spectator. In this, last page, usually reserved for light reading, we give one of the papers on that subject.]

The necessity and utility of planting forest trees, in a country so much exhausted of its original growth, was emphatically adverted to in the address of Mr. T. Law, the president of the Agricultural Society, in Prince George's county; and we are glad to perceive, by another address from him, recently forwarded for publication in this paper, by order of the same society, he has recalled the attention of its members to the same topic. In the story of the loves of Shalum and Hilpa, the value and importance of extensive plantations, are beautifully illustrated. This story will be copied into some succeeding numbers of the Farmer.]

Ed. Am. Farmer

From the Spectator.

With his own hand, the guardian of the bees
For slips of pines may search the mountain trees;
And with wild thyme and sav'ry plant the plain,
Till his hard horny fingers ache with pain;
And deck with fruitful trees the fields around,
And with refreshing waters drench the ground.

DRYDEN.

Every station of life has duties which are proper to it. Those who are determined by choice to any particular kind of business, are indeed more happy than those who are determined by necessity; but both are under an equal obligation of fixing on employments, which may be either useful to themselves, or beneficial to others: no one of the sons of Adam ought to think himself exempt from that labour and industry which were denounced to our first parent, and in him to all his posterity.

Those, to whom birth or fortune may seem to make such an application unnecessary, ought to find out some calling or profession for themselves, that they may not lie as a burden on the species, and be the only useless parts of the creation.

Many of our country gentlemen, in their busy hours, apply themselves wholly to the chase, or to some other diversion which they find in the fields and woods. This gave occasion to one of our most eminent English writers to represent every one of them as lying under a kind of curse pronounced to them in the words of Goliath. "I will give thee to the fowls of the air and to the beasts of the field."

Though exercises of this kind, when indulged with moderation, may have a good influence both on the mind and body, the country affords many other amusements of a more noble kind.

Among these I know none more delightful in itself, and beneficial to the publick, than that of planting. I could mention a nobleman whose fortune has placed him in several parts of England, and who has always left these visible marks behind him, which show he has been there; he never hired a house in his life, without leaving all about it the seeds of wealth, and bestowing legacies on the posterity of the owner. Had all the gentlemen of England made the same improvements upon their estates, our whole country would have been at this time as one great garden. Nor ought such an employment to be looked upon as too inglorious for men of the highest rank. There have been heroes in this art as well as in others. We are told in particular of Cyrus the great, that he planted all the Lesser Asia. There is indeed something truly magnificent in this kind of amusement: it gives a nobler air to several parts of nature: it fills the earth with a variety of beautiful scenes, and has something in it like creation. For this reason the pleasure of one who plants is something like that of a poet, who, as Aristotle observes, is more delighted with his productions than any other writer or artist whatsoever.

Plantations have one advantage in them which is not to be found in most other works, as they give a

pleasure of a more lasting date, and continually improve in the eye of the planter. When you have finished a building, or any other undertaking of the like nature, it immediately decays upon your hands, you see it brought to the utmost point of perfection, and from that time hastening to its ruin.

On the contrary, when you have finished your plantations, they are still arriving at greater degrees of perfection as long as you live, and appear more delightful in every succeeding year than they did in the foregoing.

But I do not only recommend this art to men of estates as a pleasant amusement, but as it is a kind of virtuous employment, and may therefore be inculcated by moral motives; particularly from the love which we ought to have for our country, and the regard which we ought to bear to our posterity. As for the first, I need only mention what is frequently observed by others, that the increase of forest trees, does by no means bear a proportion to the destruction of them, insomuch that in a few ages the nation may be at a loss to supply itself with timber sufficient for the fleets of England. I know when a man talks of posterity in matters of this nature, he is looked upon with an eye of ridicule by the cunning and selfish part of mankind. Most people are of the humour of an old fellow of a college, who, when he was pressed by the society to come into something that might redound to the good of their successors, grew very peevish; "we are always doing (says he) something for posterity, but I would fain see posterity do something for us."

But I think men are inexcusable who fail in a duty of this nature, since it is so easily discharged. When a man considers that the putting of a few twigs into the ground is doing good to one who will make his appearance in the world about fifty years hence, or that he is perhaps making one of his own descendants easy or rich by so inconsiderable an expense; if he finds himself averse to it, he must conclude that he has a poor and base heart, void of all generous principles and love to mankind.

There is one consideration, which may very much enforce what I have here said. Many honest minds, that are naturally disposed to do good in the world, and become beneficial to mankind, complain within themselves that they have not talents for it. This therefore is a good office, which is suited to the meanest capacities, and which may be performed by multitudes who have not abilities sufficient to deserve well of their country, and to recommend themselves to their posterity, by any other method. It is the phrase of a friend of mine, when any useful country neighbour dies, that you may trace him; which I look upon as a good funeral oration, at the death of an honest husbandman, who hath left the impressions of his industry behind him in the place where he has lived.

Upon the foregoing considerations, I can scarce forbear representing the subject of this paper as a kind of moral virtue, which as I have already shown, recommends itself likewise by the pleasure that attends it. It must be confessed, that this is none of those turbulent pleasures which is apt to gratify a man in the heats of youth; but if it be not so tumultuous, it is more lasting. Nothing can be more delightful than to entertain ourselves with prospects of our own making, and to walk under those shades which our own industry has raised. Amusements of this nature compose the mind, and lay at rest all those passions which are uneasy to the soul of man, besides that they naturally engender good thoughts, and dispose us to laudable contemplations. Many of the old philosophers passed away the greatest part of their lives among their gardens. Epicurus himself could not think sensual pleasure attainable in any other scene. Every reader, who is acquainted with Homer, Virgil, and Horace, the greatest geniuses of all antiquity, knows very well with how much rapture they have spoken on this subject: and that Virgil in particular has written a whole book on the art of planting.

This art seems to have been more especially adapted to the nature of man in his primeval state, when he had life enough to see his productions flourish in their utmost beauty, and gradually decay with him. One who lived before the flood might have seen a wood of the tallest oaks in the acorn. But I only mention this particular, in order to introduce, in my next paper, a history which I have found among the accounts of China, and which may be looked upon as an antediluvian novel.

Mr. Skinner.—If any part of your valuable paper should be unoccupied by more important matter, it will be gratifying to me if you will insert the following queries, provided it should elicit answers from the proper source.

1st. As the mania for the culture of Ruta Baga prevails so generally, will it not be a profitless crop to the farmer, unless it be found convenient to expend it on the farm? And if so, what would be the most lucrative use that could be made of it by him who abandons the culture of grain for Ruta Baga? And why has Mr. Cobbett, with all his explicitness on other points, not informed us what quantity of Ruta Baga, and the length of time required, without the assistance of grain, to render a bullock of any given weight fit for the butcher?

2d. With all the valuable information contained in Mr. McCulloch's letter, on one of the grand desiderata in American agriculture, why has he not given us the best mode of propagating orchard grass? And can it be successfully sown in the fall to bring a crop of clover afterwards in place of oats or barley? And what quantity of seed is required?

3d. Have you Mr. Skinner, complied with your promise, to give us Mr. Cobbett's method of earth burning?*

I can assure you, that in submitting these queries, I am actuated by no other motive than obtaining accurate information on the points referred to

A SUBSCRIBER.

* The Editor hopes his subscribers are satisfied with the attention which has been bestowed on this matter in the American Farmer—at the same time invites them to call for the discussion of any agricultural question or system, which they may think is not well understood, yet sufficiently important in its nature to deserve investigation. The Editor may here mention as a proof of the zeal and expence with which his undertaking is prosecuted, that the last five volumes purchased by him to aid him in his labours, cost him \$100 abounding in botanical drawings or engravings of farm houses and implements of all sorts.

All that he asks in return is, to be paid with punctuality.

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,
BALTIMORE.

AT FOUR DOLLARS PER ANNUM.

PAYABLE IN ADVANCE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolus." . . . Virg.

VOL. I.

BALTIMORE, FRIDAY, DECEMBER 3, 1849.

NUM. 36.

AGRICULTURAL.

ON THE

Cultivation of Fiorin Grass,

By Dr. Richardson, D. D. Clontockle, Moy, Ireland.

Extracted from the memoirs of the Workington Agricultural Society.

(Concluded from No. 35, p. 276.)

I limit my speculations to your English Meadows alone, and my claim to the performance of my promise, to the additional crops of corn grown on these meadows; converted to tillage by the powerful operation of fiorin grass, where its culture shall become general.

I speculate upon this under the assumption I have made, that the conviction of the great value of this grass is universally diffused; and has roused proprietors, and landholders into action.

To calculate the effects I am afraid we have not data; but to have something positive to proceed upon, we must again speculate and assume. I shall therefore suppose that by the exertions I have roused, fiorin hay and winter green food (applied to the same purpose) to be raised to the amount of half the quantity of hay produced by our present meadows; of course one third of them, at least, turned out of their present employment, obliged to try another trade, that is, be broken up for tillage.

We have now restored to the agriculturalist two million acres of choice ground; let us see how they will operate upon our provision store.

I suppose every acre managed by skillful station, and to produce in every four years one crop of wheat, one of oats; and two green crops; we shall then have 500,000 acres of wheat (for shall not take the oats into account) added annually to our present produce; potatoes too will then compose part of the green crops.

A good acre of wheat has been estimated on average at 120 stone; I shall add a fifteenth, 8 one as it will contribute to the ease of calculation, to the clearness of the results, and may be allowed for.

Then 128 stone to each acre equal to four quarters of wheat at 32 stone gives us from our new acquisition, two millions of quarters of wheat yearly.

The annual consumption of wheat in England has been estimated at seven millions and one-half quarters, by others at eight millions.

The deficiency in crop in one of the worst years, 1800, or 1801, was supposed by the Duke of Portland to be one fourth of the averaged crop, and estimated at two millions of quarters of wheat.

The importation in each of these (by far the greatest ever known) passed considerably, one

million without reaching a million and a half of quarters.

From these materials it is plain that the transfer of two millions of acres of meadow to the agriculturalists for grain crops, will fully answer every purpose; will not only bring up the food to the level with the population, but also will secure an abundant provision for increasing population.

For the quantity of grain thrown into consumption by the acquisition of these meadows far exceeding the greatest quantity ever imported, on the greatest extremity, and more than equalling the whole deficiency of the very worst year, must in all common seasons secure a vast fund for exportation, by a certain redundancy above all demands.

The only question of difficulty is, shall we be able to lop off one third from our present meadows?

I can only speak for Cumberland; you tell me the rest of the county (as I understand of most of England) abounds also with peaty moor surely in that case when the aptitude of fiorin for such cheap grounds is established; instead of one third—nine tenths of your present meadows must vanish before their more luxuriant and more cheaply raised rival.

I shall be told that much of England is too arid for fiorin—have I not repeatedly challenged Bagshot Heath? and though I succeeded in tempting the Marquis of Hartford to encounter his peaty mountain, he would not let me try to convert his barren Suffolk sands into fiorin meadow.

These I confess are extreme cases; and I do not say the crops. I answer for, would pay the expense; but it is convenient to know the utmost extent of our powers; as when fairly within our limits we may venture with confidence.

You and I have had much conversation on the subject of the sandy turnip grounds, of Norfolk, in which you seemed to take a lively interest, and to doubt much that I would not be able from such soils to produce the crops of dry hay they require so much in that country, to temper their over succulent clover, and turnip feeding.

No doubt had I an option; it is not to such parched soils, I should recur for fiorin crops; but where it becomes necessary I should not shrink from them.

The important difference would be, that instead of finding (as before) my own manure, ashes or water, I must call for putrescent manure (in small quantities indeed) to mix up into compost with the loose soil of the place; and then by availing myself of the natural history and habits of this vegetable; I engage to produce as good crops of fiorin in Norfolk as in moister grounds; later indeed, nor would I answer as in other places, for a supply of green food in September, but as I understood you, dry hay was the great

desideratum: and for that I engage to any amount.

Why does the turnip thrive with so much luxuriance in that loose arid soil; because the great paroxysm of vegetation of the turnip, does not come on until the drought is nearly over, and then continues, in vigour through the moist Autumn, when the length of the night, and (even when no rain) heavy dews; supply ample moisture.

Exactly the case with the fiorin, whose paroxysm comes on later; and continues longer; and I answer for it, if we keep in view the extreme drought the crop may sustain in summer; and arrange its period of laying down; so as to have the ground clothed early; that Norfolk shall produce as luxuriant fiorin, as Cumberland or Clontockle.

I need not recur to authorities to prove that the state of our country in respect of provisions, is very alarming; it is too well known; you have suggested two remedies; either of which you clearly prove, would be completely adequate to prevent, both immediate and future calamity.

I suggest a third; and as I think, have demonstrated that mine by itself would be fully sufficient.

Our three measures are totally distinct from each other, yet in many points they bear strong marks of similitude.

The end we both aim at is the same, and the greatest national object that can well be conceived; yet we never think of calling upon the state to aid us—we run no risk of being told, that we shall not convert public money to private use; that we shall not make parliamentary liberality, a mere source of patronage; we simply ask others to do what we have done ourselves with success—upon whom do we call? not upon the nation; but upon the individuals composing it; we call for exertions immediately beneficial to themselves and remotely to the state.

Is there a landholder in the united kingdom, who cannot co-operate in some of our plans? and how many in them all; he who cannot extend his agricultural field, may at least improve his practice; and who cannot plant fiorin on some scale?

Able generals previous to a battle, have often in their address to their soldiers; told them that each individual should consider the victory as depending on his own exertions, as resting upon his own arm alone.

Is not our case at present exactly similar? let each landholder do something, as if under the conviction, that the prosperity, nay the very existence of his country; depended upon himself; the result is obvious, and would be instantaneous.

Your desiderata and mine are precisely the same—confidence in us, and proportionate exertion on the part of others;—was there ever so apt a period; one so fit for enabling exertions to be carried to the utmost extent as the present?

our trade abated and of course much capital unemployed—our manufacturers idle, and turbulent for want of food, we suggest immediate remedies for both inconveniences: we open sources for the application of capital, to the improvement of our wilds and wastes,—and in every part of the united kingdom, we find abundant employment for every man now thrown out of his usual work.

Let us look to the state of England in another point of view,—the whole population of England and Wales, amount to 9,343,578. The numbers employed in agriculture by the returns to the house of commons, but to 1,713,289, the excess therefore above the agricultural populations is 7,680,289.—Is this a prudent distribution of the national force?—the great redundancy of the manufacturing population; above what supplies our domestic consumption and that of our colonies; we now find lies at the mercy of treacherous friends or inveterate enemies; it is these who have thrown our manufacturers idle. Let then the agriculturist throw open his arms to receive the unemployed manufacturers; let him cherish them as a gift of providence bestowed upon him at the most critical time; just as he is taught by you and me, to avail himself of their strength to his own great benefit; and to the infinite advantage of his country.

Let him treat them with kindness in their distress, and the natural propensity of man, to prefer the open air, to sedentary labour; will induce very many of them to adhere to their new trade, and the increase of the agricultural population will not be momentary but permanent.

W. RICHARDSON, D. D.

Moy, Ireland, Dec. 4th. 1811.

TREATISE ON AGRICULTURE.

We have now the satisfaction to continue those valuable essays from the Albany Argus—six of which have been republished in the Farmer the last one of them in number 25, page 183. Our file of the Argus, some how, got broken, and we now resume the publication from that excellent journal the PLOUGH BOY—a work which contains so much to admire and instruct, that were we to copy all that serves to amuse or to edify, we should transcribe the whole—four numbers more comprise the whole of these essays

Editor Am. Farmer.

Treatise on Agriculture.

SECTION VII.

Tillage, and the principles on which it is founded

Tillage has three objects: first, the raising of plants, whose seeds, stems or roots may be necessary or useful to man, and the animal he employs; second, the improvement of the soil, by laying it open to those atmospheric influences which increase its fertility; and third, the destruction of weeds or plants which rise spontaneously, and are either altogether unfit, or fit only in a small degree, for the nutrition of men and cattle, and which if left to themselves, would stifle or starve the intended crop.

In fulfilling either or all of these objects, it is evident that the surface of the earth must be broken and divided into small parts, so that in the first instance it may furnish a bed and covering for the seeds sown, enable them to push their

roots into the soil, and draw from it a portion of their subsistence.

To accomplish this leading intention, (the division of the soil,) various means have been employed. Fossile, animal and vegetable manures, as well by their mechanical action as by their chemical properties, promote it; as do sand, pounded limestone and water, (as in the culture of rice) but it is to the spade and plough we must look for that degree of efficiency, without which, the earth would have remained a desert, or would become one. Of these, where the scale of labour is small, (as in garden culture) the former is to be preferred; but in farming, the greater expedition of the latter gives it a decided advantage. Our remarks, therefore, will be confined to the operations of this instrument, and particularly to such of these as has given occasion to differences in opinion among practical farmers.

1st. At what season of the year, (spring, summer or fall,) is ploughing best performed, in relation to a division and improvement of the soil, and the destruction of weeds?

The more scientific opinion is in favour of fall ploughing; because to the action of air and moisture it adds that of frost, whose septic or dividing quality is second only to that of the plough itself. In clay soils, this preparation should never be omitted; because on those the action of frost is greater, and because one ploughing of this kind may save two in the spring—when time is every thing. (1) In this operation, however, we must not forget to ridge, as well as plough; and care must be taken, that our furrows have sufficient declination to carry off surplus water. With these precautions, your clay ground will be ready early in the spring for another ploughing; and the decomposition of the sod and weeds, (turned down in the fall,) will be nearly if not altogether complete. (2)

In dry and warm soils, these advantages are less, but still, the time gained for spring work is a sufficient inducement to a practice that economises not merely our labour, but the productive powers of the earth also, by soonest enabling us to shade the soil with a growing crop. (3)

2d. What number of ploughings preparatory to a crop, is necessary or proper?

The Romans were in the practice of multiplied ploughings. This appears as well from the precepts of Cato, as from the opinion of Columella, that "tillage which does not leave the earth in a state of dust, and render the use of harrows unnecessary, has not been well performed." Tull,

1. The Marsh bean grows best on a fall ploughing; and oats, well harrowed, will, on such ploughing, give a good crop without other culture.

2. Without water there is no decomposition, and much water checks and prevents it.

3. Those who have any doubts about the importance of shade, have but to look at the effects of a brush heap, or other collection of small bodies, admitting air, heat and moisture, during the spring or summer months. Under such collections he will find a much more vigorous vegetation, than in the uncovered parts of the field.—The cause of this effect is, that the brush prevents evaporation.

and his disciples, carry the doctrine still further, and believe that frequent ploughings enable us to dispense with even the use of manures. This, however, is extravagant; it is certain that the plough can do much, but it is equally certain that there is much it cannot do.

Agriculture, like other business, having profit for its object, is a subject of calculation: its labours must be regulated by its end, and the moment the expense of these transcends the profit, it may be improvement, but it ceases to be farming. When therefore, we hear of six ploughings preparatory to a wheat crop, we conclude either that the plough will soon stop, or that it belongs to one of the Dilettanti, who thinks it below him to count the cost. In our own practice we find that spring crops, of the cereal graminæ, succeed best on one fall ploughing, well ridged and furrowed, and one cross ploughing in the spring—and that spring and summer crops, of the leguminous and cruciform families, form the best possible preparation for winter crops, and render unnecessary more than one additional ploughing. After all, any proper answer to this question, must necessarily be qualified by considerations of soil, weather, season, crop and culture; influences which cannot but exist in all cases, and over which we have no control. Wheat, for instance, requires more preparatory ploughing than rye, and rye more than oats. Clay ground demands more tillage than calcarious earth, and calcarious earth more than sand. Wet or dry weather makes frequent ploughing (according to circumstances,) either useful, injurious or impracticable; and the shade of a horse hoed crop is perhaps, in itself, of more importance to that which succeeds, than would be the fallowing of a whole summer.

3d. What depth of ploughing is most to be recommended?

This question, though less complicated than the last, requires, like it, an answer qualified by circumstances. Tap rooted plants require deeper tillage than others; fall ploughings may be deeper than those of spring, and spring than those of summer. If the vegetable soil be deep, deep ploughing will not injure it; but if it be shallow, such ploughings will bring up part of the sub soil which is always infertile, until it receive new principles from the atmosphere.—"They who pretend," says Arthur Young, that the under layer of earth is as proper for vegetation as the upper, maintain a paradox, refuted both by reason and experience."

Where, however, it becomes part of your object to increase the depth of the surface soil, deep ploughing is indispensable; and in this, as in many other cases, we must submit to present inconvenience for the advantage of future benefit. But even here it is laid down as a rule, that "in proportion as you deepen your ploughings, you increase the necessity for manures. (4)

"From six to eight inches may be taken as the ordinary depth of sufficient ploughing." (5)

And 4th. Of the different modes of ploughing, level or ridge ploughing, which is to be preferred?

This question admits no absolute answer. We have already suggested the use of the latter

4 Young.

5 Idem.

mode, in stiff, heavy wet clays, and in our opinion all ground, in which clay predominates, whatever be the culture, should be made to take this form; because it powerfully tends to drain the soil and carry off from the roots of the growing plants, that superfluous water which left to itself, would seriously effect both the quality and the quantity of their products.(6) In sandy, porous, dry soils, on the other hand, level ploughing is to be preferred, because ridging such soils would increase that want of cohesion, which is their natural defect.

A loamy soil, [which is a medium between these two extremes] ought, in a dry climate, to be cultivated in the flat way, that it may the better retain moisture; and in a wet climate, in ridges, that it may the sooner become dry.

6 It has been objected to ridge ploughing, that it accumulates the good soil on the crowns of ridges, and impoverishes the sides and furrows. These objections are obviated by narrow and low ridges, which alternate every crop with the furrows.

From the National Intelligencer.
STATISTICAL.—COTTON, RICE, TOBACCO, SUGAR, WINE.

The National Intelligencer informs us that in New York 133 bushels of Indian corn have been gathered this year from one acre, and 714 bushels of potatoes from one acre. This has led to the following statistical facts.

Cotton.

In 1817 the export of cotton from the United States was (85,649,328lbs.) more than eighty five million. One acre yields at a moderate estimate, 50 lbs. of clean cotton. This whole export therefore, is the product of only 535 square miles—this is less than the 108th part of Georgia, and less than the 520th part of the cotton regions of the United States.

Rice.

The maximum export of rice was 73,329 tiers, in 1790, or 43,997,400 lbs. nearly forty-four million pounds. This on an average crop, is the produce of only sixty-five square miles, which is less than the 440th part of South Carolina, and less than two thirds of the district of Columbia.

Tobacco.

The maximum export of tobacco was 12,428 hogsheads in 1791. A hogshead is about one thousand weight; and, on an average, one acre will yield one hogshead. The export, therefore, is the product of about 176 square miles—which is less than the 363d part of Virginia. Each of the 97 counties of that state, contains on an average, more than 659 square miles, viz:—more than three times the quantity of land which furnished the above export

Sugar.

Such is, generally, the fertility of the equatorial regions of America, that all the sugar consumed in France, estimated at twenty million hilogrames, (about fifty-four million pounds,) may be produced on an extent of seven square leagues, which is not equal to one thirtieth part of the smallest department of France.

Wine.

About 1,600,000 arpens, or 1,350,400 acres are in France employed in the culture of the vine. The value of the annual product is about 100,800,000 dollars at about twenty cents a gallon. In 1790, Bordeaux alone exported more than fifteen million gallons of wine. The one million six hundred thousand arpens are less than one eightieth part of France, and less than one twentieth part of Pennsylvania.

The value of the annual produce of these five interesting articles may be thus estimated:

Cotton at 15 cents,	\$12,847,399
Rice \$20 a tierce	1,466,580
Tobacco \$60 a hogshead,	6,745,680
Wine 20 cents a gallon,	100,800,000
Sugar consumed in France, at ten cents a pound,	5,400,000

\$127,259,559
For the product of these articles the following quantities of land are cultivated, viz:

	Square miles.
For cotton	555
rice	65
tobacco	176
sugar	63
wine	2110
	2949

This is a little less than three fourths of the state of Connecticut.

The authority for cotton, rice, and tobacco, is Seybert's Statistical Annals, and the personal information of gentlemen of experience in the culture of those articles.

For sugar I have the authority of Humboldt's Essai Politique.

For wine I depend on Chaptal; his "Treatise, theoretical and practical, on the culture of the vine, and the art of making wine, brandy, spirits of wine and vinegars, simple and compound," is a truly classic work, in which he had the aid of Rozier, Parmentier, and Dussieux. It contains all that the chymist, or botanist, or vine cultivator, or enlightened statesman can reasonably ask, or wish to know. It is in two 8vo. vols. of about 500 pages each, with twenty one plates.

This admirable treatise should be translated for the use of our fellow citizens who occupy our wine-yielding regions. For in a few years, the United States will produce wine for their domestic consumption and exportation.

A revolution of our planet on its axis would present to the eye of an observer at the distance of a few thousand miles, a few spots or specks (China or Holland) fully cultivated. The rest would be as a desert. Pauperism in England, now so extensive and so dangerous, is fulfilling the prophecies of Goldsmith's deserted village.

"Political economy," says Jean Baptiste Say "is founded on statistical knowledge, or what is the same thing, history;" and that "the American confederacy will have the glory of proving that the loftiest policy is in accordance with moderation and humanity."

The most active mind has not yet conceived an adequate idea of the vast resources of the United States.

Washington City.

From the National Intelligencer.

ON THE GRAPE VINE,
WITH ITS WINES, BRANDIES, SALT, AND DRIED FRUITS.
No. III

The object of these papers is to excite to objects of agriculture, manufacture, commerce, and consumption of the utmost importance to the prosperity of our country. The forms and niceties of literary composition will yield their claim to attention to the more solid substance of the pertinent information and suggestions.

In the course of the consideration of this subject, several letters from living friends to our prosperity have been brought together. The remainder of this paper will be appropriated to the publication of one of those letters, of very recent date, from a native of the United States, of the best opportunities, in Bordeaux, the emporium of that part of the kingdom of France which gives to us the largest quantities of the most esteemed wines and brandies which enter into our regular consumption. It here follows, in its own clear and instructive terms:

"I have been favoured by your letter of the 24th. *Chaptal*, sur la Culture de Vine, *P'Abbe Rozier's* memoire sur le mellicure maniere de faire et gouverner les vins, and *Jullien's* Topographie de tout les Vignobles, are the authors the most in repute in France on the Vine and on Wine. The first and last can be had in Philadelphia; and if *Rozier's* memoir is not to be found, as it is an old book, you can doubtless find, at your French book stores, his Dictionary of Agriculture, 5 vols. in 4to, which under the head of Vine, will give you all the information you desire.

"The district which produces the best wine, about Bordeaux, is Medoc. That country is divided into upper and lower Medoc, lying between the Gironde and Garonne and the Bay of Biscay. It is much such a country, as to hill and dale, or general surface, as that between Philadelphia and Trenton, of a sandy-loam, and gravelly soil, with some few exceptions of small patches. About seven leagues from North to south, and three from east to west of this district, is occupied with vineyards, which produce the best wine, whose expositions are from east to south.

"In this district, *Lafitte*, *Chateau Margaux*, *Latour*, *Leoville*, *La Rose*, *Braune Mouton* and *St Julien*, with various other qualities of Claret, are produced which bring from sixty dollars the ton, of four hogsheads, (or 252 gallons,) to six hundred dollars, according to the estimation they are held in. The vines in this district are not suffered to grow above three feet from the ground.

"*Hautbriant* is produced on a single estate of that name, lying in La Grave, about a league south of Bordeaux. The soil is sandy and gravelly; so much so that you would hardly suppose it capable of vegetation.

"The districts which produce *Sauterne*, *Barsac* and *Grave* wines, lie from the skirts of the city south about four leagues, presenting much the same swell of surface as that part of New-Jersey through which the mail runs between Trenton and Brunswick. The name of this district, (or, more properly speaking, the northern

part of it.) Grave, denotes its soil Gravier—Gravel. I have seen hundreds of acres of vines in Grave, growing in pebbles, from the size of a bean and nutmeg to that of an egg, without the least vestige of earth, crackling under foot, and filling one's shoes. Of the white wines of Bordeaux, Sauterne, Barsac, and Corbonnieux are of the first quality; but there are many other growths which vie with them, and the ordinary qualities of these white wines are various. I have purchased good pleasant white wine at six dollars the cask of 63 gallons. The qualities sent to this country cost from twelve dollars the cask to forty dollars. Of the other wines you mention I have no knowledge.

"It has been stated that two millions of acres are taken up in the cultivation of the vine, in France, producing, one year with another, five hogsheads of sixty-three gallons to the acre; which at the moderate price of fifty francs, or ten dollars, the hogshead, gives one hundred million of dollars.

This produce is immense: and what renders it still more valuable is, that it does not lessen the quantity of other necessary productions, such as wheat, &c.; for where the vine generally grows in France, nothing else will grow; such is the poverty of the soil generally employed for vines.

"They have the wild vine in France. I have seen large quantities of it near Bayonne, and round the foot of the Pyrenees, up to Pau. The inhabitants make beautiful hedges of it, and I have been assured by a distinguished naturalist, Mr. Pennier, who is now in the Alabama territory, that some of the excellent grapes of France have been produced from the wild vine, after some years of careful cultivation. He is now engaged in inoculating our wild vines with those of France, from which he expects the most favourable results.

"I shall conclude these hasty observations by an extract from Rozier:

"The vine is a plant whose transpiration and suction is abundant and vehement, which sufficiently indicates the soil and exposition natural to it. For this reason, grounds composed of sand gravel stones and rotten rocks, are excellent for its cultivation

"A sandy soil produces a fine pure wine. The gravelly and stony a delicate wine. Rotten and broken rocks a funny generous wine, of a superior quality.

"A rich, strong, compact, cold or humid soil, which is pressed down by the rains, and which the sun hardens or bakes, is essentially prejudicial to the quality of the wine.

"The most advantageous exposition for the vine, is that of a gentle slope, or side of a hill, facing east and south, on which the rays of the sun continue the longest time.

"Hills in the neighbourhood of the ocean and rivers, ought to be preferred to all others. The lower parts of these hills are not so favourable to the vine as the upper, and neither are equal to the middle region, the soil being the same.

"All trees are unfriendly to the vine, as much from their roots as their shade. All who cultivate the vine, should remember this precept of Virgil; 'Apertos Bacchus amat colles'—The vine flourishes in the open unshaded hills."

"In a word, the vine ought never to be planted

in soils that can produce grain &c. because it wants nothing but heat and thrives best in the poorest ground. This will appear ridiculous to those who look for quantity: but as to the quality of the wine, it is in strict conformity with the laws of vegetation and with experience.

I must be understood to speak here of countries only whose temperatures are favourable to the success of vineyards. We must except those in more northern latitudes. These general precepts admit of no exceptions: they will be acknowledged by all those who, with good faith, and free of prejudice, have studied the cultivation of the vine. If other modes and precepts are followed, we cannot answer for the age of the vine, or for the quality of the wine."

These views of the locality, soils, and exposures of the fine Bordeaux wines, such as the white, or Sauterne, and vin de Grave, and the red or clarets, such as La Fite, Chateau Margaux, &c. will be left, for the present, on the public mind, with a firm confidence in their due impression, accompanied by the remarks that the difference between our temperatures, in our present wooded condition, and that of the southwest of France, may be safely taken at eleven or twelve degrees; and that the progress of clearing lands and draining swamps, will reduce that difference, in a few years below ten degrees. Thus, St. Mary's in Georgia, will ultimately prove about as warm for vegetation, as Oporto in Portugal, and the productions of Europe, in any given latitude, may be found in, or, as we drain and clear, introduced into the United States in latitudes 9 or 10 degrees farther south. The pride of all Europe is certainly the wines of the following places:

Champagne, in lat. 49° N. in Europe equal to		39° to 40° in U. S.
Burgundy,	48	38 to 39
Old Hock wine	49	39 to 40
Bordeaux, Claret, and Sauterne,	44	35 to 36
Best brandy of the wine grape: Bordeaux and Cogniac.	45	35 to 36
The wine district of Europe for the finest wines from Malaga & Xeres to Epernay, in Champagne,	36½ to 49	27½ to 39 or 40

A friend to the National Industry.
Philadelphia, Nov. 5, 1819.

CONSTITUTION, Or articles of association of the NEW YORK COUNTY SOCIETY

For the promotion of Agriculture and Domestic Manufactures.

Art. 1. The objects of this society, are the promotion of agricultural economy, and the encouragement of domestic manufactures.

Art. 2 Every person on becoming a member, shall subscribe these articles, and pay to the treasurer of this society, the sum of not less than one dollar, on the first Monday in June, in each year, for the use of the society, as long as he continues a member. Any member shall have liberty to withdraw, on giving written notice to the recording secretary, and paying all arrears.

Art. 3. The officers of this society, shall consist of a president, two vice-presidents, a treasurer, a recording and corresponding Secretary.

Art. 4. The general administration of the affairs of the society, shall be conducted by a board of managers, consisting of the officers of the society, and twenty-five members, to be chosen by the society; seven of whom shall form a quorum; the president *ex officio*, to be chairman of the board of managers, or, in his absence, the next officer of the society. The board of Managers shall have power to frame by-laws for the regulation of the society; admit ordinary and honorary members; regulate the time and place of the annual exhibition, of which sufficient notice shall be published; designate the objects, and fix the value of each premium; and perform all other acts, which they may think proper and necessary to promote the objects of the society. Actual members of the society, to be admitted to the meetings of the board of Managers, with the right of discussion.

Art. 5. Any by-laws framed by the board of managers, shall be submitted to the society, at their next meeting; and shall only continue in force until that period, unless adopted by the society.

Art. 6. The officers of this society, and the board of managers, shall be chosen forthwith by ballot; and hereafter in like manner, on the first Monday in May. No officer, or member, of this society, to receive any salary or reward, for discharging his official duty.

Art. 7. In case any of the officers, of this society shall die, or resign, the vacancy to be filled by the board of managers, until the annual election in May. The society shall have power to make alterations in or additions to this constitution; which, when adopted shall form part thereof.

New York, May 9th, 1819.

HEMLOCK.

In page 200, Number 25, we published a note from Mr. Field, of Petersburg, Va., desiring that inquiry might be made through the medium of this paper, as to the deleterious qualities of the Hemlock on the constitution of the horse, and stating his apprehensions, that a favourite animal had been poisoned by eating it in his hay.

We promised then to investigate the subject, and in fact we feel it our bounden duty to answer to inquiries of this sort; not merely because it is in the way of the Farmer to make such researches, and to promulgate the result, but because the very generous and distinguished encouragement, which has been given to this journal, induces us to apprehend that higher hopes and more flattering opinions, are entertained of the capacity and knowledge of the Editor, than it will be possible for him to realize and justify with all the industry he can use, in moments of leisure from paramount public duties.

Running our eye hastily over the works in our agricultural collection, which were most likely to throw all necessary light on the various species of Hemlock, and their medicinal qualities, we find in an English work, "Thornton's Family Herbal," an engraving of four different kinds, all of which are represented to be deadly poisonous.

The Fine-leaved Water Hemlock, *Phellodendron Aquaticum*—the Hemlock Water-dropwort, *Oenanthe Crocata*—Water Hemlock, *Cicuta Virosa*, and the Common Hemlock, *Conium Maculatum*. In that splendid *American work*, now publishing in Boston, we find elegant coloured engravings of the *Conium Maculatum*, and of what the author, professor Bigelow, calls the *Cicuta Maculata*, or *American Hemlock*. This we have little doubt is the plant most prevalent, and the one which killed or poisoned Mr. Field's horse.

If by thus exhibiting to our readers, the physiognomy and character of this dangerous intruder, we should be the means of saving a single one of those noble animals from a similar fate, we shall have ample satisfaction for its having occupied so much of the *American Farmer*.

As to the eradication of this and other noxious weeds that spring up, especially in new made meadows on low lands, the most effectual remedy is no doubt to be found in the *plough*, that is, *by cultivation*; and we have been satisfactorily assured, that *brine* will destroy elder, and other weeds, which have been found, by all other means, ineradicable.



CICUTA MACULATA.

AMERICAN HEMLOCK.

It is a rule sanctioned by the observations of medical botanists, that umbelliferous plants which grow in or about the water, are of a poisonous nature. This rule will generally be found correct, although it has exceptions. As far as aquatic plants of this natural order have been examined, their properties, in a great majority of instances, have been found, more or less of a deleterious kind. The *Cicuta virosa* of Europe is a highly poisonous plant, possessing such formidable activity that its internal use is hardly attempted in medicine. An American species, the *Cicuta maculata*, the subject of this article, is very closely allied in its botanical habit to the European plant, and was equally deserving of suspicion from its appearance, although the public were not generally aware of its true character. Within a few years past, several instances have been brought to light of fatal

effects ensuing from this plant being incautiously eaten by children. It is therefore necessary that the species should be suitably designated, that a source of so much danger may be known and avoided.

The *Cicuta maculata*, to which I have applied the name of American Hemlock, not having heard any common appellation except that of Snakeweed, inhabits wet meadows and banks, from the northern to the southern limits of the United States, flowering in July and August. It is so frequently cut with a mow, among which it often grows in large quantities, that we might expect to see its deleterious properties operating on domestic cattle, were it not that their bodies are probably less susceptible of its poison than ours. The European *Cicuta*, above mentioned, is highly noxious to man, and to some domestic animals, yet goats and sheep eat it with impunity.

The genus *Cicuta* differs from other genera of umbellate plants in having no general involucre, a short, partial involucre, and a fruit which is nearly orbicular, compressed and furrowed.*

The species *maculata* has a fascicled root and oblong leaves with mucronate serratures.

The class and orders are as in the last article.

This plant is so remarkable for the form of its root, that had not the name of *maculata* been confirmed to me by the best authorities, I should have thought that of *fasciculata* to be greatly preferable. This root is composed of a number of large, oblong, fleshy tubers, diverging from the base of the stem, and frequently being found of the size and length of the finger. The root is perennial, and has a strong, penetrating smell and taste. In various parts of the bark it contains distinct cells or cavities, which are filled with a yellowish resinous juice. The plant is from three to six feet high. Its stem is smooth, branched at top, hollow, jointed, striated, and commonly of a purple colour, except when the plant grows in the shade, in which case it is green. The leaves are compound, the largest being about three times pinnate, the uppermost only ternate. Most of the petioles are furnished with long obtuse stipules, which clasp the stem with their base. Leaflets oblong acuminate, serrate, the serratures very acute or mucronated. The veins end in the notches, and not at the points of the serratures. The flowers grow in umbels of a middling size, without a general involucre. The partial umbels are furnished with involucres of very short, narrow acute leaflets. The distinctness or separation of these um-

* This description of the fruit agrees with the present species and also with *Cicuta bulbifera*, a smaller species not uncommon about Boston.—The *Cicuta virosa* of Europe I have never seen.

bels characterizes this plant at a distance among other plants of its kind, whose umbels are more crowded. Calyx of five very minute segments. Petals five, white, obovate with inflected points. Fruit nearly orbicular, compressed, ten furrowed, crowned at top, and separating into two semicircular seeds.

The fleshy root of the *Cicuta maculata*, when pressed emits from its divided extremities a viscid yellowish juice of a strong penetrating taste. This juice dissolves in alcohol, from which it is precipitated by water. When distilled, a thick volatile oil collects in the receiver in the form of a film upon the surface of the water. The remainder of the juice yields a resin of a dark orange colour, fusible and inflammable. The decoction of the root affords a pearl coloured fluid, not very sensible to the tests of mucus, tæcula, tannin or extractive.

In August 1814, an account was sent to Boston by Dr. Stockbridge of Bath (Maine) of the effect produced on three boys by eating a poisonous root, which they had dug up, supposing it to belong to the plant called 'Life of man.' One of them was seized with violent convulsions, frothed at the mouth and died in an hour and a half. The other two were affected with vomiting, stupor, dilatation of the pupil, great paleness and universal distress: which symptoms disappeared in one in twenty-four, and in the other in thirty six hours. It was supposed that the first boy had swallowed about a drachm of the root, and the others about half that quantity. A specimen of the plant was sent to me at the same time with the account, and proved to be the *Cicuta maculata*. Dr. Stockbridge's letter, which was published in the *New England Journal*, contains two other cases of the effect of this root, in one of which it proved fatal.

Shortly after the publication of the above facts, an article appeared in the *New York Medical Repository*, containing an account by Dr. Ely of Dutchess county, of the effects of an unknown poisonous root, supposed to be the white hellebore. Three small boys, who had gone into a meadow in search of sweet flag root, had dug up and eaten another root by mistake. Two of them died in convulsions in about an hour after they had swallowed it. They discharged much blood and froth from the mouth and nose; their eyes were fixed, with the pupils dilated, and a rapid motion of the eye lids. The third boy vomited, and recovered. When taken to the place the next day, he pointed out the spot where they had dug the root, and where a considerable quantity of it remained. Some of the root was planted by Dr. Mitchell in the *New York Hospital garden*, where it vegetated and produced flowers and fruit. It turned out to be the *Cicuta maculata* of Linnæus. In the same article, is a letter

from Dr. Muhlenberg, stating that he had received specimens from Savannah and from West Pennsylvania, where it had destroyed several persons, who ate it by mistake for angelica. All the specimens were similar, so that there could be no doubt of the identity of the plant. In the same letter, Dr. Muhlenberg remarks, that he had reason to believe that the poisonous quality of the root is altered by cultivation in a dry soil.

The foregoing facts are sufficient to establish the poisonous character of the plant under consideration. They may also serve to show the importance of accurate descriptions and faithful engravings of noxious vegetables, which may enable even unlearned observers to distinguish them at sight. There can be little doubt that cases, like those above described, have occurred in repeated instances, which have never met the public eye. Perhaps also from an ignorance of the real cause of the symptoms, the proper remedies have been neglected. The plant is extremely common in many parts of the United States, and I believe its true character is not generally suspected. A very respectable physician informed me, that it was used in his vicinity as a gargle for sore throats, by people unsuspicious of its qualities.

Since the discovery of its narcotic properties, the *Cicuta* has been used in small doses, as a substitute for the conium, by one or two practitioners in this place. Its effects were very analogous to those of the true hemlock, as far as they were observed, but more powerful. A primary symptom, which attended a large dose, was nausea and vomiting.

The treatment of persons poisoned by this plant, as in the case of other narcotics, should primarily consist in a thorough evacuation of the stomach. As there commonly exists a spontaneous tendency to vomit, occasioned by the poison itself, this should be assisted by mechanical means, by irritating the throat with the finger, or with a feather. Of emetics, the sulphate of zinc is to be preferred, on account of its speedy operation. Castor oil or infusion of senna, should be given as soon as vomiting has taken place. The vegetable acids, such as lemon juice or vinegar, have a neutralizing influence on the narcotic, and are therefore useful. Strong coffee and tea are the best antidotes for the stupor, and should be promptly administered. In violent cases, bloodletting should be resorted to. As most narcotic poisons act by destroying the functions of the brain, respiration being suspended, because it is under the influence of that organ; Mr. Brodie is of opinion, that in some cases, life might be preserved by keeping up artificial respiration, after death has apparently taken place.

BOTANICAL REFERENCES.

Cicuta maculata. Linnaeus Sp. pl.—Pursh, i. 195.—*Egopodium foliis lanceolatis, acuminatis, serratis*, Gronovius, Virg. 32. An-

gelica Caribæarum ciatior, olusatris folio; flore albo; seminibus luteis, striatis, cumini odore et sapore? Plukenet, Alm. 31, Phyt. t. 76, f. 1.

MEDICAL REFERENCES.

Schæpf, 36.—Bart. Coll. 18, 16,—Stockbridge, New England Journal, iii. 334, Mitchell, Ely and Muhlenberg, Med. Repository, xvii. 303.

KITCHEN GARDEN, FOR DECEMBER.

(From the American Practical Gardener, published by Eieling Lucas, Jr.)

(Continued from No. 34, page 270.)

General Remarks.

Should the weather prove mild, and the ground continue open, in the beginning of the month, you may complete any work recommended to be done in November, which has, unavoidably been omitted.

If the weather continue open, and your last month's work forwarded, carry dung into the various parts of the kitchen garden, spread it, and trench the ground, laying it in high ridges, to be improved by the frost, &c.

Should the ground be so frozen as to prevent its being trenched, carry in manure, and lay it in a suitable place, to have it at hand, as soon as the ground can be worked. Clean all the seeds, which remain in their pods, or capsules, put them up carefully and label them. Prepare all tools which may be wanted in spring, and take all possible care to prevent every unnecessary delay at that season.

Southern States.

In such of the southern states, as have but very slight frosts during the winter, you may sow on warm borders, for early crops, small quantities of carrots, parsnips, onions, beets, radish, spinach, parsley, &c.; earth up late celery and cardoons, tie up endive for blanching and plant out in rows, up to their heads, such cabbages as are intended for seed. Take care to set each kind apart by itself, and at a considerable distance from any other; for if contiguous, the farina of the one would impregnate the stigmas of the other, and neither kind would retain its original purity.

Plant early Mazagan, Lisbon, long-pod, and Windsor beans, and sow early hot-spur, and other early peas; earth up the crops of peas and beans, which were put in the ground the preceding months; as they advance in growth cover them at night and in severe weather, with long dry straw, which can be conveniently removed, when a favourable change takes place, and laid on again, when found necessary.

Plant out garlic rocambole, and shallots, likewise large onions for seed; sow, as directed in March, the seeds of rhubarb, skirrets, alisanders, dill, and such other kinds of seed, as do not vegetate so freely, when kept till spring.

FRUIT GARDEN.

General Remarks.

Keep all the apartments, where your winter fruit is stored, free from frost. Examine and pick your fruit once in ten or twelve days, and remove all decayed or tainted fruit.

Take all moss from off your trees, and remove it from the garden.

Fasten all the loose branches to the walls or espaliers.

Repair all decayed espaliers; prepare stakes and other materials for this work, that it may be performed, as soon as the frost will admit, and attend to every other kind of business, which will forward you in the spring.

Carry well rotted dung, rich earth or compost, and spread it on the borders for you espalier and wall trees.

Pruning Apples and Pears.

Apples and pears being hardy may now be pruned.

Gooseberries and currants, being also hardy plants, may be pruned in any of the winter months; but if it is requisite to plant cuttings, this pruning ought to be done, when the ground is free from frost, so as to admit of the shoots being planted therein.

Prepare for Forcing Fruit Trees.

Towards the latter end of this, or the beginning of next month, put the lights on your fire heat forcing frames, such as described in January fruit garden, page 144, having previously pruned and nailed up the trees in due order.

The trees should not too suddenly experience the transition from extreme cold, to vegetating heat, but let it be gradually done.

Southern States.

In such of the southern states, as have not severe frost in winter, you may now prune apples, pears, &c. and every other kind of fruit tree, except the fig and orange species. All the above, except the orange, may now be planted in those places with safety.

The editors of the National Intelligencer took the liberty, a few weeks ago, of addressing a letter to the executive officers of the several states in the union, requesting from them information, for public purposes whether any, and if any, what amendments had been made to the constitutions of their respective states. They have received from the following states prompt and satisfactory answers: viz. from Maryland, Pennsylvania, New York, New Jersey, North Carolina, Ohio, Kentucky, New Hampshire, Tennessee, and Massachusetts. Fearing that their letters have miscarried, they respectfully request that similar communications may be made to them, as early as convenient, by the executives of the other states.

We learn that the disease called the Burnt tongue, which was mentioned a few days ago, has made its appearance among the cattle in some parts of Baltimore county. The following recipe which was published in the Gazette at that time, and which a respectable gentleman informs, is an infallible remedy, we have been requested to reprint:

Dissolve two ounces of Copperas and two ounces of Alum in a pint of strong Vinegar; swab the mouth and tongue with the solution, until the disease is removed; then dissolve Honey and Alum in Vinegar, and use it in the same way to heal the tongue.

Fed. Gaz.

There were exported from New Orleans from the 1st to the 30th September, 1352 bales of cotton; 49 bales went direct to Europe and 808 coastwise. There were shipped in the same time 768 hhds. of tobacco, all of which, except 281, were shipped to foreign ports.

NEW YORK, Nov. 18.

Ocean Steam-Ship Company.—A company under this title was incorporated by the Legislature of this state, with a capital of 500,000 dollars, to be employed in the construction and outfit of vessels to navigate the ocean by steam and the following gentlemen are named as directors in the charter, viz.

Admiral D. Colden

John Whetten

Henry Eckford

John Graham

Preserved Fish

Elisha Tibbitts

David Dunham

Stephen Whitney

Robert Bogardus

James B. Murray.

Charles Hall

The directors have elected the Hon. C. D. Colden to be President and James B. Murray Secretary to the company. And we understand they intend carrying into effect, without delay the object of their incorporation, by building a steam boat to ply between this port and Liverpool.

Occasional Extracts.

MR. SKINNER,

Dear Sir,—You will oblige a friend by publishing the following:

In your paper, page 273, the following remark is made by "A Subscriber." "As the mania for the culture of Ruta Baga prevails so generally, will it not be a profitless crop to the farmer, unless it be found convenient to expend it on the farm? And if so, what would be the most lucrative use that could be made of it by him who abandons the culture of grain or Ruta Baga?"

The most important error, into which the farmers of Maryland have fallen, has been to make almost an entire crop. This is too fatally witnessed in the tobacco district. It never was the design, that the "Ruta Baga" should be an entire crop. Those who raise it, contemplate the feeding of it away to stock, and for culinary purposes, for which it is preferable to any other vegetable. Let "A Subscriber" try a pound of this seed properly thinned, and he will think so; but let him be cautious of whom he buys his seed, for there is many a seedsman, who can talk of Ruta Baga, "in this country or Europe," who knows nothing of it, and would be as likely to sell white turnip as Ruta Baga seed.

"A Subscriber" also says "and why has Mr. Cobbett, with all his explicitness on other points, not informed us what quantity of Ruta Baga, and the length of time required, without the assistance of grain, to fatten a bullock of any given weight fit for the butcher." To feed an animal on one kind of food without a change, is contrary to the very principles of nature. Although I venture to assert, that the Ruta Baga is preferable to any vegetable I ever did eat, yet I should be very reluctant to live on it, or any other one viand for a twelvemonth. But if "A Subscriber" wishes to be more particularly informed on this subject, let him refer to page 3, of the American Farmer, for the mode of feeding of Columbus and the Delaware ox.

"A Subscriber" also says, "Have you, Mr. Skinner, complied with your promise, to give us Mr. Cobbett's method of earth burning?" You have answered this in a note, not sufficiently explicit, and I think too delicate. Mr. Cobbett protects his publications by securing the copyright, any gentleman who wishes to acquire this information, may obtain it by purchasing the Year's Residence; and in truth, I think you have already ventured very boldly to infringe his copy-rights.

Yours, &c.

A FRIEND.

MR. SKINNER.—Please to inform your correspondent, who signs himself A Subscriber, in the Farmer

of the 19th instant, in answer to one of his queries, that Orchard grass is easily propagated by seedling, especially in the spring, and only needs what every other grass seed requires, well prepared ground, free from surface water. It is sown broad cast, near a peck to an acre, when it comes up thick and close, but in a little while, divides into clumps leaving many intervals. It was observed in the essay alluded to, that it made a great appearance, but did not answer to it in the weight of the crop.

That it is not suited to the bringing in of clover; not giving place to it, and out lasting it. But this office is well performed by timothy, which sown in any of the fall months, will afford a mowable crop the next summer, and having clover sown over it in the spring will easily admit its growth joins in and swells the following crops, with increase of weight, and in dry ground gradually resigns its place to the clover.

J. M.

Baltimore Nov. 24th, 1819.

MR. SKINNER.—It being the usual custom of the Roman Governors, to advise the Senate and people of such material things, as happened in their respective provinces. Publius Sentulus, being pro-consul in the days of Tiberius Caesar, the Emperor, wrote the following epistle to the Senate concerning the description of the person of Jesus Christ.

"CONSCRIPT FATHERS."

"There appeared in these our days a man of great virtue, named Jesus Christ, who is yet living among us, and of the Gentiles is accepted for a prophet of truth, but his own disciples call him the Son of God. He raiseth the dead, and cureth all manner of diseases. A man, of stature somewhat tall and comely with a very reverend countenance, such as the beholders may both love and fear; his hair of the colour of a filbert fully ripe, plain to his ears, whence downward it is more orient of colour, somewhat curling and waving about his shoulders; in the midst of his head, is a seam or partition of his head after the manner of the Nazarites; his forehead plain and delicate, his face without spot or wrinkle, beautified with a comely red; his nose and mouth exactly formed, his beard thick, the colour of his hair; not of any great length, but forked; his look innocent, his eyes gray, clear and quick—in reproving, terrible—in admonishing, courteous—in speaking, very modest and wise—in proportion of body, well shaped—none have seen him laugh; many have seen him weep—a man for his singular beauty, surpassing the children of men."

THE FARMER.

BALTIMORE, FRIDAY, DECEMBER 3, 1822.

Extracts from a Compendious Dictionary of the Veterinary Art.

(Continued from No. 34, page 272.)

Buck Eyes. A term used by dealers and jockeys for diseased eyes.

Buff. A name commonly given to that yellowish jelly, which is found on the surface of blood that has been drawn from an animal labouring under an inflammatory disorder. This gelatinous coat, in proportion to its thickness, pretty accurately denotes the degree of general inflammation that exists, and its appearance indicates the necessity of further bleeding. It is also named size, and blood with this appearance is said to be sizey. In fact, it consists of the coagulable lymph of the blood, from which the red particles or colouring matter have prematurely subsided. See Blood.

Callous. This term in farriery is applied to hard indolent swellings, such as that which often remains after a severe strain of the back sinews. A swelling of the knee in consequence of falling

sometimes continuing after the inflammation that produced it has subsided; it is then free from tenderness and unusual heat, and is said to have become callous. Various means have been proposed for dispersing such swellings; such as camphorated mercurial ointment, oil of origanum, &c. but nothing is so likely to prove effectual as blistering, which may be repeated twice or three times if found necessary, taking care that the effect of one is quite gone before another is applied: and this may be more readily accomplished by washing the blistered part frequently with cold Goulard water, beginning three or four days after the application of the blister. In callous swellings about the back sinews, firing is the best remedy.

Calomel. A well known and very useful preparation of quicksilver or mercury it is used as an alterative, and as a purgative: for the latter purpose it is generally joined with aloes, ginger, and soap; when as an alterative, it may be mixed with a small cordial ball. Calomel is an excellent remedy for worms; For which purpose it is either given alone for three or four successive nights, and then worked off by a common dose of physic, or joined with a sufficient quantity of aloes &c. to act at once as a purgative. As an alterative, the dose of calomel is from one to two scruples; as a purgative, joined with aloes, from one to two drams. When given to destroy worms, and repeated for three or four days, the usual dose is about a dram. When employed alone as a purgative, it has been given to the extent of half an ounce; but this has been seldom done, and perhaps there are but few cases in which it would be deemed prudent to venture on so large a dose.

Canker. An obstinate and often incurable disease which attacks the horse's foot. It more frequently happens to draught horses than to the saddle or blood horse, and to the hind than the fore feet. Canker generally first appears in the cleft of the frog, which discharges matter of a very offensive smell; thence it gradually spreads to the other parts of the foot, and if not checked, ultimately affects even the tendons, ligaments and bones. If canker be attended to at its commencement, a cure may generally be effected without much difficulty, merely by removing carefully all the horny matter, that may be detached from the sensitive parts, and washing the diseased surface twice a day with a strong solution of blue vitriol. It generally happens, however, that the disease is unobserved or neglected until it has made considerable progress; and then the cure is often extremely difficult. The first thing to be done, in whatever stage the disorder may be, is to cut away completely all the horny matter, which may be found to cover a diseased surface, and afford a lodgment for the fetid matter which forms. This must be done freely; it is better to pare away too much than too little. Some practitioners go so far as to remove the whole bottom of the foot, or draw the sole as it is termed: and in cases of long standing, where the disease has spread under great part of the horny sole, it is perhaps, the most effectual method of exposing completely the diseased parts.

Mr. St. Bel strongly recommends it, and indeed all practitioners agree in considering the complete removal of the horny matter, which

covers the diseased sole, or frog, or bars, as an essential and indispensable operation.

The fungous matter which arises from the cankered surface should be freely cut away, and when the bleeding which follows shall have ceased, some mild caustic is to be applied. Mr. Blaine recommends a solution of lunar caustic; one dram to two ounces of water: or blue vitriol, alum, and white lead, of each one ounce, finely powdered, and sprinkled on the part; he then advises to apply very carefully a firm but regular pressure on the whole surface, by means of tow, keeping it on by narrow plates of thin iron placed across each other, having their ends under the shoe; for it must be remembered, he says, that firm permanent pressure is the only thing to be depended upon, when the exuberant or fungous part has been removed. According to Mr. Feron, in his *New System of Farriery*, "tar and vitriolic acid mixed together make a real specific for canker, as well as thrushes;—or take powdered verdigris, one pound and a half; burnt alum, half a pound; red lead, half a pound; treacle, four pounds; nitrous acid, one ounce: boil the whole to a proper consistence, and when cold add the nitrous acid." It is necessary to dress a canker every day, examining the foot carefully each time, and removing any horn that may be found covering a diseased surface. In inveterate cases the strongest caustics may be employed with advantage, until the cankered parts begin to look more healthy, and the offensive smell has been corrected.

The sulphuric and nitrous acid have been used undiluted with good effect; but these powerful caustics must be applied carefully, and to such parts only as are in a foul cankered state; butter of antimony is a useful caustic for this purpose; powdered sublimate, red precipitate, and burnt alum have also been recommended. When the cankerous appearance and smell have been corrected, milder dressings are proper; such as,

Friar's balsam, two ounces.

Sublimate, one scruple.

Or,

Tar, four ounces,

Sulphuric acid, two drams.

Oxen and sheep are liable to a disease similar to canker, which sometimes appears between the claws of the divided hoof; at others it exists in only one of the claws, appearing by a crack in the sole or crust, from which a fetid discharge first issues, a luxuriant fungus then forms, and the disease ends in the loss of the claw. If there be only a discharge, Mr. Blaine advises the application of astringents; and if a fungus has formed, the opening is to be enlarged, and the excrescence removed; after this, he directs a hard pledgit of lint, sprinkled with powdered blue vitriol and alum, to be applied exactly within the edges, of the wound, and firmly bound on the part; this is to remain three days, and then, if no fungus appears, a pledgit of lint only is to be applied.

To be continued.

Cecil County, Dec. 2, 1819.

Mr. SKINNER.—I have for many years been in possession of an iron mill, which fully meets my wishes for breaking the cob and corn. It is a patent machine upon the same principle as the iron bark mill. I gave for it about 70 dollars, but in this charge I paid for the erection complete. The machinist was at the expense of bringing the mill 40

miles by land, and of preparing all the timber and putting the machine into operation. It is simple in its construction, and not liable to be deranged. I feed my horses and cattle from the mill. I cannot recollect the name of the man who erected my mill, nor that of the patentee—Some farmer of Baltimore can inform you.

Note by the Editor.—The above information comes from the pen of a gentleman whose name is withheld under general and positive instruction, never to publish it without his consent.—We are not insensible to the loss which we and the public experience in his indisposition to write for the Farmer.—We have procured a drawing of "JOHN RODGERS' and JOS. DEMOND'S improvement of the corn and cob mill," and an engraving of it shall be inserted for the satisfaction, particularly of the friend who made the inquiry, and for the information of our subscribers generally—cost \$35. It is possible it may be inserted next week, but it is more probable that we shall be compelled to make it give place to several other engravings that have been for some time proposed.

Queen Anne's County, Nov. 15, 1819

Mr. SKINNER.—I send you some remarks of my much esteemed aged and experienced relation Mrs. D. D. on the subject of gapes in poultry, after reading in her presence your queries respecting the cause, and your tobacco smoke remedy, &c. But before I proceed I will tell you she indulged the liberty of "shaking sides" a little (which old ladies generally claim) at your wild conjectures respecting the cause of gapes.

She stated the gapes are occasioned by little red worms which are eaten greedily by young poultry and swallowed alive in such quantities, as to prevent their being killed by the juices of the stomach, before they crawl up the throat and get into the windpipe, which gives them that uneasy and fatal disorder—the gapes. She stated she once saw the worms extracted from the pipe, by means of an elastic wire, which was twisted like a screw into the pipe and drawn out, bringing with it three and four worms at a time, until the number of thirty was extracted from one chicken, and immediately the chicken eat heartily, and went off well which had refused food before; she stated this as a remedy, but it is a hazardous one, and if not skilfully applied will give instant death; for if the wire is pressed into the pipe in such a way as to stop the breath too long, the death of the chicken is certain; she therefore recommends prevention, rather than cure; which may be effected these several ways:—First by keeping the young poultry up till the sun drives the worms below the surface of the ground, and put up before the worm rises. Second by feeding them so well before let out, as to remove the desire to eat them in such quantities. Third, by removing the surface every season before hatching time,* as by so doing the worm will be carried from the poultry yard, as this is the place where the worm so much abounds,—these are the means invariably practised by her, and very great success repays her labours. If these observations are considered sufficient to explain the cause of the malady, they are at your option. I remain your highly gratified subscriber, W. R.

* This ought to be done by ploughing off the surface; it would cleanse the poultry yard, and give it the healthiness which all housekeepers know belongs to a new dunghill. Fowls are always raised with more ease and success where none have been raised before. Again, by this practice of ploughing up and removing the surface of old dunghills, another object will be gained, to which even the most thoughtless farmer begins to attach some little importance—it would increase the quantity of manure. *Edit. Amer. Far.*

Singular effect of Peruvian Bark.

A French merchant, at Guayra, named Delpech, in 1806, had occasion to receive several travellers, inhabitants of those countries. The apartments destined for visitors being filled, and the number of his guests increasing, he was under the necessity of put-

ting several of them in rooms occupied by cinchona. Each of them contained from 8 to 10 thousand pounds of that bark. One of his guests was ill of a very malignant fever. After the first day he found himself much better, though he had taken no medicine; but he was surrounded with an atmosphere of cinchona which appeared very agreeable to him. In a few days he felt himself quite recovered without any medical treatment what ever. This unexpected success led M. Delpech to make some other trials. Several persons ill of fever, were placed successively in his magazine of cinchona, and they were all speedily cured, simply by the effluvia of the bark.

In the same place with the cinchona, he kept a bale of coffee, and some bottles of common French brandy. In some time M. Delpech, when visiting his magazine, observed one of the large bottles uncorked. He suspected at first the fidelity of a servant, and determined to examine the quality of the brandy. What was his astonishment to find it infinitely superior to what it had been! A slightly aromatic taste added to its strength, and rendered it more tonic and more agreeable. Curious to know if the coffee had likewise changed its properties, he opened the bale, and roasted a portion of it. It was more bitter and left in the mouth a taste similar to that of the effluvia of bark.—The bark which produced these singular effects was fresh. Would the cinchona of commerce have the same efficacy?

[We copy, with much pleasure, from the Franklin Gazette, the following notice of the splendid Print recently published in Philadelphia. More is not said of the print than it well deserves, but it is said in a manner which reflects as much credit on the writer as on the work. To understand this remark, it should be known to our readers, as it is to us, that a bitter political animosity exists between Mr. Binns, (as the editor of the Democratic Press) and the editors of the paper from which the following is copied.]

Nat. Intel.

"The new print of the Declaration of Independence, published by J. Binns, reflects great credit on the various artists who executed the work.—We have seen nothing of the kind superior to the engraved portraits which adorn it. The writings and the arms of the different states are elegant and highly ornamental. The whole of the signatures, with one exception, appear to have been originally well written; and the fac similes are handsomely executed. The publisher has exhibited in this expensive work, much enterprise and perseverance, and has fully redeemed the pledges given in his proposal in relation to it. Upon the whole, as a specimen of the progress and perfection of American art; as a state paper inimitably penned, and destined to unfading immortality; and as an ornament not less beautiful to contemplate, than instructive to read and study; We recommend every American family, who can spare the means, to procure a copy of this truly splendid print of the Declaration of Independence."

Franklin Gaz.

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,

BALTIMORE,

AT FOUR DOLLARS PER ANNUM.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, DECEMBER 10, 1819.

NUM. 37.

AGRICULTURAL.

To the Editor of the American Farmer.

SIR,

By a resolution of the committee of the Agricultural Society of Prince George's County, I am directed to transmit to you the enclosed documents, with a request, if you think proper, to have them published in your valuable periodical paper.

I perceive in this paper, that you express a desire to know the constitutions and dates of the establishment of all our county societies—cheerfully I comply with your wish, as regards the one of this county—it was instituted on the 24th of November, 1817, by a small number of members, and now consists of between 30 and 40. The articles of the Constitution were drawn up by me during the recess, and adopted at the following meeting in February, 1818.* The first meetings were held at private houses, but the inconvenience attending it, when the number increased, was set aside, by a resolution to have them in future held at public places.

I have the honour to be with much regard,

Sir, your very obed't serv't

A. W. PREUSS.

John S. Skinner, Esq. Baltimore.

ADDRESS

Of Thomas Law, Esq. the President, to the Agricultural Society in Prince George's County, at the meeting in October, 1819.

As the wealth and power of a nation depend upon the accumulations of congregated industry by individuals, self-interest and patriotism combine to stimulate us to improvements in Agriculture. It is mortifying to consider how many persons have sold their farms at low prices, and relinquished their birth-places and friends, to settle in the western wilds, from inability to support themselves on impoverished land. To mismanagement only can this necessity be attributed—year after year have they scratched the surface of the earth with diminutive, feeble, half famished cattle, and badly constructed ploughs, without returning to it any sustenance by clover or other manures. How very few farmers estimate the expense of cultivation and of seed, or calculate what is the neat surplus from their crops, after charges are deducted. Mr. Curwen, in his reports has given the following statement of the cost of working a pair of horses by a Berwickshire farmer.

Keep of two horses,	70	00	00
Driver,	30	00	00
Blacksmith,	3	00	00
Saddler,	2	00	00
Deterioration,	10	00	00
Tax,	9	00	00
Money,	10	00	00
Carts, Ploughs, &c-	10	00	00

sterling, . . . £. 125 19 00

"This is a charge of 2l. 10s. 6d. per acre, supposing a pair of horses to be equal to 50 acres, in East Lothian, where 40 acres are supposed sufficient for the labour of two horses, it amounts to 3l. 3s. per acre." If seed be added to this, it will require about thirteen bushels of wheat per acre at the present prices for the farmer merely to indemnify himself. Alas, I apprehend that our crops on this side the Susquehanna rarely average this quantity.

It is most desirable that we should pride ourselves more on our implements of husbandry than on our furniture, and on external abundance rather than on internal luxury. As a proof of the expense incurred by spirited farmers in England to improve their lands. Mr. Curwen mentions a Mr. Logan who laid out seven pounds sterling per acre in liming, at the rate of about 250 bushels per acre.

In Great Britain nine tenths of the land are leased out to tenants, who pay from two pounds to five pounds sterling per acre, and they find every thing for husbandry, and even on these terms they grow rich; whilst we, without tythes and taxation, and with slaves, can scarcely support ourselves—to what can we attribute this unpleasant contrast, but to superior productiveness occasioned by superior cultivation? Mr. Curwen states, that lands of the best quality are supposed to average 34 Winchester bushels per acre, and of the worst quality 18 bushels—I leave to you my brother associates to average our crops. The above-mentioned gentleman complains, that the great and prevailing error in English agriculture is overploughing, and having more land under tillage than the quantity of manure will justify—were we to limit our tillage to our supply of manure, what an increase of old fields we should witness, and yet I am convinced that land-owners would be in better circumstances. I have been pained to behold in my rides, fields of wheat, oats, rye and corn which would scarcely return the seed sown. The rule with us is, because we have many hands, we must cultivate a great deal—England has been called a garden spot, and so it must necessarily be to support twelve millions of inhabitants on a territory not larger than Virginia. We have twenty states, for a population of nine or ten millions,

and only export produce to the amount of fifty million of dollars: which, if all in wheat, would not feed more than 200,000 for a year.

That you may judge of the produce of an English farm, I will copy Mr. Curwen's statement:—

322 acres of Wheat at 12l. sterl. per acre,	£. 3864
16 Barley,	4 . . . 72
50 Oats,	4 . . . 200
247 Clover,	12 . . . 2804
76 Meadow,	6 . . . 456
51 Potatoes,	13 . . . 663
10 Carrots,	7 . . . 70
10 Cabbages,	8 . . . 80
47 Turnips,	5 . . . 115
17 Sweets,	7 . . . 119
23 Cole,	5 . . . 115
5 Lucerne,	10 . . . 50
20 Pastures,	5 . . . 100
894 acres.	£. 8678

He sold 146,780 quarts of milk at 2d. per quart, amounting to 1223l. 18s. 6d., and beeves, but he credits himself with clover.

After this he gives the following account of manure:

Manure Account from Nov. 1810, to Nov. 1811.

	A.	R.	P.	
High Hunday	37	0	2	2403 Horse Carts.
Ox Close	38	1	9	1976 do.
West Leathes	28	1	16	813 do.
Common	70	0	0	4360 do.
Great Laborays	20	0	0	300 do.
Scaw Gill 2 fields	40	0	0	1436 do.
East Waites	13	0	0	561 do.
West Waites	14	0	0	1197 do.
Well Croft	14	0	0	392 do.
Old Potato field	15	0	0	308 do.

13746

Quantity of Manure required at the Schoose, for 1812.

	acres.	cart loads.
Low Hunday	21 at 60 loads per acre,	1250
Winscale's field	16 do.	960
Bowman's field	5 do.	300
Millrig	61 do.	3660
Low Park	20 do.	1200
Quarry field	13½ do.	810
Little field	2½ do.	150
East Low field	5 do.	300
West Low field	10 do.	600
Common	7 do.	420
Ox Close	10 do.	600

171

10250

* Published in page 114 of the Farmer.

Statement of the Land for Green Crops at the Schoose and Moor Close Farms, for 1812.

	Aeres	Tur.	Cabb.	Potat.	Man.	Winn.	Col.
Low Park	20	20					
Mill Rig	61	51	10				
Low Hundav	21			21			
Winscale's Field	16			16			
Bowman's Field	5	5					
Ox Close	10				10		
Quarry Field	13½			13½			
Little Field	2½			2½			
Low East Close	5					5	
Far West Close	10					10	
Common	7					7	
Total,	171	76	10	53	10	22	

Supposing the 15764 single horse carts to be equal to 4584 tons, taking the distance to be on an average one mile, it would require the horses to travel loaden and empty 27528 miles. Taking into the account the carrying from the *pies** to where it is used, we may fairly compute it at thirty thousand miles. Supposing the number of working days 300 and that each horse travelled 15 miles a day, would require nine horses to be constantly employed. The advantages are great in having an estimate of the supposed quantity of manure necessary for the crops."

We here perceive a quantity of manure given to the soil, of which we have never entertained an idea. I have already assigned reasons why our climate is more favourable for crops, and the crops less liable to failures, than the English. That the value of our estates must rise rapidly by such improvement of the soil, and by such crops is self-evident. That the expense of cultivation in proportion to produce, must also be less, is equally undeniable.

On the subject of soiling, I have already treated at large, and I am glad to perceive that Mr. Tilghman has adopted it with success. I must refer to his letter printed in the American Farmer, for the particulars of his most successful mode of cultivation.

Next to deep ploughing and manuring, I must solicit your attention to irrigation. When I commenced farming three years ago, I learnt from my neighbours that I must not water my meadows after the end of April or middle of May, as the sun would heat the water and scald the grass; as I had been in Asia where they rely entirely upon water for the crops, as the rain never falls for seven or eight months, I doubted their intelligence, and soon ascertained that by watering they meant overflowing. I therefore conveyed water from my neighbour's spring, and found much benefit by moistening the roots of my grass. Too much watering and very little watering are equally injurious. The sun burns the grass, plant, &c. in either case; stagnate water is also destructive of vegetation.

On the subject of irrigation, I will give some extracts from Mr. Young's tour, which will be both instructive and entertaining.

"*Piedmont Rice.*—Such is the consequence of water here, that land lets for about £15 sterling per annum, an acre with a small house. The watered meadows are now mowing for a third

* By pies he means cow dung covered over with earth in small heaps.

time, the predominant plants, the epicorium inbus, plantago lanceolata, accchillea nullefolium, and trifolium pratense. From Coni to Turin more than half the country appears to be watered, possible two thirds—it is singular that more trenches are not dug to carry the water off the land, from which we may conclude either that the heat of the climate renders such drains less necessary than in England, or that water is too far to be brought on in the least superfluous quantity. The contrivance towards Turin for carrying the aqueducts of irrigation across the roads, are beautifully executed; for convenience of distribution, the water course is raised 3 or 4 feet or more above the general level; these aqueducts are brought to the side of the road, and seemingly finish in a wall, but really sink in a syphon of masonry under the road and rise on the other side behind a similar wall. Seeing these buttresses of masonry, without perceiving at first any water, I wondered for a moment to what use they could be assigned, but when I mounted the footway, this beautiful contrivance was at once apparent. These are noble exertions, water is measured with as much accuracy as wine.

"Near Milan, land sells at £22 15s. the English acre, and the rent is about £1 5s.—but there are lands that rise to £163 the English acre. In lands water makes half the value, that is the rent will be half to the owner of the land, and half to the owner of water."

"I was shown between Milan and Pavia a spring that was discovered two miles from the land of the discoverer, the properties of many persons lying between him and the spring; he first bought the property of the owner of the spring and then he conducted it at pleasure the two miles, paying according to law, the fixed price for cutting through his neighbours' grounds, and having gained it upon his own, soon changed poor hungry arable gravel into a very fine watered meadow. The watered meadows are mown four times, and what is watered in winter, five times. All in general begin to water in April and last till September, and if there be no rain once in seven or fifteen days—an ounce of water running continually from the 24th March to the 8th of September, sells for 1000 livres.

"Every considerable spring that is found, becomes the origin of a new canal; they clear out the head for a basin, and sink casks by way of trenches, for the water to rise freely, without impediment from mud or weeds; there are usually three, four or five of these at the bottom of a basin of twenty or thirty yards—without irrigation, the rent of this country would be only one third of what it is at present. The trenches for letting in the water are deep ones, struck with the plough from eight to twelve yards asunder in September—they are now watering clover eight inches high, by letting the water into these trenches, and conducting it in a singular manner; a man walking backwards, draws by a line a bunch of straw and weeds, just large enough to stop the water in the trench, and force it to overflow on each side. This is an expensive and laborious method, inferior to the Spanish. In Spain the land is prepared for water by levelling with a siccity, as curious as for making a bowling green, and this is the only expense except conducting the

water. This general level is divided into oblong beds from six to eight feet wide, by little ridges of fine mould, drawn up nicely every time the ground is sown, in order that the water may not spread over too much at once, in which case the irrigation would be unequal; small trenches take the water from the carrier canals and passing by the ends of those beds, the farmer opens them at pleasure, to distribute the water where wanted."—"Watered maine is here from seven to nine feet high. Every time we see irrigation, we are more and more struck with the importance of water; French beans seven feet high—good, because cut three or four and even six times a year—crops in perpetual succession. All the crops I saw of Lucerne would yield ten tons green to the acre, let us suppose five cuttings or fifty tons, at 16s. sterling a ton, this is £40 sterling per acre. Maize or Indian corn, is sown sometimes only for its herbage, it is one of the most nourishing plants in the world."

I have made these long quotations, that attention may be given to this important subject, by watering low lands; grasses may be procured for horses and cattle, during summer, and the manure thus produced would enrich our uplands—let any one bury a little manure here and there in a field, and he will be struck with the superior luxuriance of any crop on those spots—several English farmers have visited me lately, and they all have wondered how we can obtain crops without manure. This summer being so very dry, has shown how in many places the labour of the cultivator, and the seed have been entirely lost, for want of an improved soil—when a soil is well manured, a crop withstands drought in an extraordinary manner. In Asia the natives rely almost entirely on water, for agricultural and horticultural crops, particularly for potatoes, which always are most productive in a wet season.

Mr. Heb, my neighbour, a very excellent farmer, and also a most beneficial experimentalist, has this year covered all his corn without the labour of hoeing. I have requested him to communicate to us, the mode adopted, and to exhibit the machine; he first recommended the cultivator by his example, and it is found to be superior to ploughing and harrowing after the corn is up, and to save much labour—an object of the greatest importance, where hands are so scarce and dear.

Permit me again to urge you to plant locusts, chesnuts, cherries and other useful trees along your fences. Mr. Say, a much approved author on political economy, says, "In all times attention to trees, is recommended most strongly by the ablest men. The historian of Cyrus, puts amongst the number of his titles to glory, his having planted all Asia Minor with trees. Sully, who had so many valuable economic views, planted trees in almost every province of France. I have seen many of them, to which public veneration attached his name, and they reminded me of Addison's observation, whenever he saw a plantation of trees, when he exclaimed, "a useful man has been here."

"Man has only to plant trees once, and nature does all the rest—they become an ornament and enrich the proprietor; and they also, add to the salubrity of the air—for the leaves absorb car-

bonic acid gas, which, when too abundant, is destructive of health, whilst they give out oxygen, which is that part of air the most proper for respiration."

Mr. Say also observes, that trees cause rain, and also, benefit the soil by sheltering it from drying winds. Mr. Say, alludes only to the absorption of bad air, but trees may be planted to improve it.—The Asiatics have learnt from experience, that trees are either prejudicial or beneficial to health, according to their different exhalations, and to confirm, tell a story of two physicians, who resided at a distance, and wished to ascertain each other's skill. The first chose a stout man, and told him to carry a letter to the other, and to sleep on the road every night, under a tamarind tree—the purport of the letter was, that the bearer had a complaint, which baffled his skill—the man arrived sick, the physician by his inquiries, learnt the cause of his disorder, and immediately ordered him to sleep every night under a banyan tree, and to deliver this reply, "the bearer you will find recovered.—Wholesome trees in large cities, would perhaps prevent the yellow fever."

You may expect gentlemen, some report of my own progress in farming—experience has taught me, that timothy ought to be on uplands, and that potatoes, turnips and corn, ought to be on low land—Every person who has it his power, should have a garden on an elevated situation, with a south exposure for spring vegetables, and low grounds for the summer productions—had I known this before, I should have gained several hundred dollars.

Let me again recommend the drill husbandry, in preference to broad cast; turnips, carrots and vegetables with tap roots, are enabled to sink deeper by the former mode, and to swell more easily—say that the earth be ploughed six inches deep, and that the ridge be raised six inches, the root can thus penetrate twelve inches before it reaches hard soil, whereas by broad cast, it can only penetrate six inches.—The manure also can be placed exactly under the plant—sowing also is much more quickly performed—have a field of drilled turnips, which I believe surpasses any in the country, and I attribute my success this year, so remarkable for drought, entirely to drilling—with my sowing machine, and a roller following, I sowed in rows, and rolled in above two acres of seed in about four hours. The time is not far distant, when tobacco will be drilled, as the annual fall of prices, will compel planters to adopt this economical and advantageous mode.

Permit me now to advert to my dairy, and to recommend tin pans for milk, in preference to rocks or earthen pans, as I find that the former makes cream much quicker and in greater quantities; pewter pans were used before the revolution, and I can easily conceive that galvanism would facilitate the making of cream.—Pewter

* When the late drought continued so long, I predicted yellow fevers—in paved towns, moisture being evaporated, can only be supplied by rivies and from cellars.—Cats are then found dead, and the air becomes infected—were trees planted, moisture would ascend from the roots and pure air would be emitted from the leaves

pots were for many years preferred to silver or glass vessels for porter, as the former improved the liquor's favour, prejudice ridiculed the fact, till chemistry demonstrated the cause—I have imported six cows and a bull, selected by Mr. Curwen.

I imparted to Mr. Crawford, your offer to receive him as an honorary member, and he desires me in his reply, (given by me to your Secretary,) to assure our respectable associate, that he accepts of its membership with real pleasure, and he has given me some foreign wheat which I have brought to parcel out by his desire amongst us.—When the head of a department shows such zeal, we may expect our country to be benefited by the introduction of the best grains, seeds, and plants of every kind from foreign realms, to be naturalized here.

Mr. Fenwick has brought over some specimens of fine wheat from Spain, and merits our thanks.

It is most gratifying to witness such a spirit of agricultural investigation excited throughout the United States.—What a pleasure it will afford to every landholder, if by a proper system of cultivation, he finds his produce annually increase, and his expenses in proportion diminish, whilst his estate is constantly rising in value; whilst his example gives useful information, and occasions emulation all around him, and he is conscious that his country benefits by the increase of productions. Agreeable and useful occupation, augments his comforts, and philanthropic and patriotic sentiments, free from the petty jealousies and malignant rivalry of trade, all combine to render the farmer's life the most happy and most innocent. In spring he casts a cheerful regard around, buoyant with hope, whilst his exulting thoughts naturally ascend to the bestower of all gifts.—In summer he gathers in his harvest with heartfelt gratitude, for the blessings of a superintending providence.—In the autumn, he applies his acquired knowledge to improve upon the preceding year, and rejoices that in increasing resources, provide for an increasing family.—In the winter at his fire side, with conscious satisfaction he hears the tempest howl in vain—his work is collected to defeat cold, his farm supplies every necessary, and even his cattle are sheltered and well fed by his provident care.

"The touch of kindred too and love he feels;
"The modest eye, whose beams on his alone
"Exstatic shine; the little strong embrace
"Of prating children, twin'd around his neck,
"And emulous to please him, calling forth
"The fond parental soul—nor purpose gay,
"Amusements, dance, or song, he sternly scorns
"For happiness and true philosophy,
"Are of the social, still and smiling kind.
"This is the life which those who fret in guilt
"And guilty cities never know—the life
"Led by primeval ages uncorrupt, when angels
"Dwelt and God himself with man."

THOMPSON.

Before I conclude, let me recommend to you the American Farmer, a paper which collects into a focus, all the rays of light on husbandry, which are emanated from every quarter of the

globe. I have requested Mr. Skinner to give an annual index, which will make it equal to a library for a farmer.

FROM THE ALBANY ARGUS.

Treatise on Agriculture.

SECTION VIII.

Of a rotation of Crops, and the principles on which it is founded.

To this branch of our subject, we invite particular attention, because in our opinion, it forms the basis of all successful agriculture. Whatever pains we take, whatever expenses we incur, in collecting instruments of husbandry, in accumulating and applying manures and in tilling the earth; all is to little purpose, unless to these, we super-add a succession of crops, adapted to the nature of the soil—to the laws of the climate, and to the physical character and commercial value of the article raised. Peas will vegetate on wet clay; cotton and wheat, in pure sand; Indian corn will grow in high northern latitudes, and the apple may be found near the equator: we have seen St. John, struggling in wet clay, and aquatic plants, on the top of an arid mountain; but all indicated the violence done to nature, and presented only specimens diminutive in bulk and deficient in quality. The influence of markets, on the value of produce, is as little to be denied, as that of soil and climate. In the neighbourhood of great cities, table vegetables are of much more value than wheat or rye; but, remote from markets, wheat and rye have the advantage, because being more valuable, in proportion to bulk and weight, they bear better the expense of transportation.

With this general view of the subject, we proceed to examine, 1st, the practice of Europe; and 2dly, the rotation best adapted to our own soil, meridian and markets; and

1st. Of the practice of Europe:

It was long since discovered, (1) that the soil when left to itself, was never either exhausted or tired or idle; but that however stripped and denuded by man and the animals he employs, it hastens to cover itself with a variety of plants, of different and even opposite characters; that some of these have a tendency to render the earth more compact, while others have the effect of opening and dividing it—that some, (from a peculiar structure of roots, stems and leaves) derive most of their nourishment from the earth, while others, differently formed, draw theirs principally from the atmosphere; and lastly, that in these voluntary products, there is a continual and nearly regular succession of plants differently organized.—These observations, carefully made and no longer doubted; and others, leading to the same or similar conclusions, first suggested the usefulness of taking nature as our guide, and of conforming our artificial crops, to the rules which obviously governed her spontaneous productions. The effect was such as was

1 Virgil, who was a philosopher as well as a poet, appears to have thoroughly understood this branch of natural history: "*mutatis quiescunt fetibus arva*"—the true repose of the earth is in a change of its production.

expected, and for more than half a century, the rotation system has formed the true test of agricultural improvement, in every variety of soil and climate. Whenever it has been adopted, the art is found in a state of prosperous progression; whenever neglected or rejected, it is either stationary or retrograde. Yet in the face of a fact, carrying with it such conclusive evidence, the bulk of agriculturists continue to resist this cheap and obvious means of improvement, and pertinaciously adhere to a system, (that of fallows) which condemns to annual sterility, one fourth part of the earth, and even prefers four months unproductive labour, to abundant harvests and nutritious crops! But from this display of folly let us turn to one of wisdom.

On the rotation system, the whole arable part of a farm, is divided into four, six or eight fields, and subjected to a course of crops, denominated, (according to the number of these divisions) the short, the medium, or the long course. In constructing these courses, however, whether long middling or short, the utmost attention is paid to the nature of the soil, viz: In all soils, more wet than dry, more compact than porous, more hard than friable, the course is made up from the following plants, wheat, oats, buckwheat, the gramineal grasses, beans, vetchlings, clover, cabbage and chicory. In soils of an opposite character, dry, porous and friable) the plants from which to choose, are rye, spelt, barley, potatoes, turnips, (2) lupins, Indian corn, clover, St. foin, and many of the pasture grasses. In loams, (which are nearly an equal mixture of sand, clay and decomposed vegetables) the choice of plants is much enlarged; embracing what is more peculiarly proper for both sand and clay, and having besides, the following plants from which to select; Rice, millet sorghum, (African millet) lucern, indigo, cotton, hops, tobacco, madder, hemp, flax, &c. &c. The following cases, will sufficiently illustrate the principles on which they rest, viz: Never to select for a crop, plants not adapted to the soil; and never, in any soil, to permit two crops of the same species, or kind, to follow each other.

2d. Of the rotation best adapted to our own soil, meridian and markets.

Previously to entering upon this subject, it may not be amiss to glance at the practice hitherto prevalent among us. What this was, in 1801, may be seen in the answer of an English gentleman and traveller, (Mr. Strickland) to certain queries of the British board of agriculture, in relation to the state of husbandry here. After remarking that New England was not a corn country, and had little to do with the plough, and that New York was then, and would continue to be, the granary of America, he proceeds to divert his British readers with the following details—"The usual course of crops in this state, (N. Y.) is first year, maize, (Indian corn); second, rye or wheat; third, flax or oats.

We here speak of the white turnip. The Rota Baga, or Swedish turnip, is classed by French agriculturists, among the products of strong subsiding clay soils. In the next section, we shall speak of the culture of some particular plants, and among these of the Swedish turnip.

and then a repetition of the same, as long as the land will bear any thing; after which it is laid by to rest. A Dutchman's course, on the Mohawk, is, 1st year wheat. 2d, peas, 3d, wheat, 4th, oats or flax, and 5th, Indian corn. In Dutchess county, the rotation is, 1st wheat, 2d and 3d, pasture without seed, and 4th, Indian corn, or flax, or oats, or mixed crops." Jersey, Pennsylvania, Delaware, and Maryland may be classed together, from a resemblance of climate, soil and mode of culture; and here we have, "1st year, Indian corn, 2d wheat, 3d and 4th, rubbish pasture. Clover is however, beginning to be introduced, in some such course as the following; 1st, wheat, 2d, Indian corn, 3d, wheat, 4th, and 5th, clover.

Two exceptions are however taken to this system, 1st, in the German settlements in Pennsylvania, where from more attention, or more skill, "the wheat crop averages eighteen bushels to the acre; where twenty five bushels are frequent, and instances of thirty not wanting; and, 2d, in the peninsula of Maryland and Delaware, where the rotation of Indian corn, wheat and rubbish pasture, has reduced the average produce to six bushels per acre; in some instances not more than two bushels are obtained, and much is so bad as to be ploughed up again."

"In Virginia the usual crops are, Indian corn and wheat, alternately, as long as the land will produce them; and in parts where tobacco is cultivated, several crops of it are taken, in succession, before any grain is sown. No one states the average of that extensive flat country in Virginia, lying below the head of tide water, at more than five or six bushels; and in those fertile and beautiful valleys, among the mountains, in which ignorant cultivators have not yet resided sufficiently long to have entirely exhausted the soil, the produce may not be less than twelve bushels the acre."

These specimens of agricultural skill will not be adduced as proof of the favourite national position, that "we are the most enlightened people on the face of the globe," and the less so, as a lapse of eighteen years had not entirely weaned us from ancient habits; for neither on the Maryland peninsula, nor in eastern Virginia, is there any material alteration in their mode of culture, excepting what may have arisen from the fact, that having no more fresh land to exhaust, they are now obliged to recur to old field, and are, of course, annually suffering the new and increased penalties of former improvidence. On the western shore of Maryland, in the northern parts of Delaware and in Pennsylvania, New Jersey and New York, the state of things is better; clover has been substituted for (what Mr Strickland calls) rubbish pasture, and the root husbandry is encroaching, on summer fallows; which we regard as a decisive step towards a regular and judicious rotation of crops.

After this brief statement of the past and present state of home agriculture, let us anticipate the future. We cannot believe, that favoured as we are with a temperate climate, with a productive soil, with an inquiring, reflecting and independent yeomanry, and with civil institutions, which favour and protect all the developments of industry and genius, we shall long remain behind the serfs of Tuscany, the tenants of Eng-

land, or the peasants of Flanders. But to rival these, we must follow their example; we must multiply the means of subsisting cattle; because these will, in their turn, give manures, and manures will quicken and invigorate the soil for the production of articles of the greatest value and the highest price. It is on this simple basis, that we offer the following tables of a rotation of crops, adapted to our own circumstances.

Medium course in sandy soils;—1st year potatoes dunged; 2d, rye, with turnips after harvest, consumed on the fields; 3d, oats and clover, or barley and clover; 4th, clover; 5th, wheat, with turnips after harvest, consumed on the field; and 6th, peas or lupin, or lentils. We have, by this course, eight crops in six years, and five of these ameliorating crops. (3)

Medium course in sandy soils;—1st year potatoes dunged; 2d, year, wheat with turnips, as in the preceding course; 3d year, Indian corn and pumpkins; 4th year, barley and clover; 5th year, clover; 6th year, wheat and turnips as before. In this course, we have nine crops in six years—five of which are ameliorating crops; and

Medium course in clay soils;—1st year, oats with clover; 2d, clover; 3d, wheat; 4th, beans, dunged; 5th, wheat; 6th, the yellow vetchling.

FROM THE NATIONAL INTELLIGENCER.

On the Grape Vine, with its wines, brandies, salt, and dried fruits.

No. IV.

The state of this culture in the Spanish North American province of Cohauila is worthy of the most particular attention of the people of the southern and western states and territories. That Spanish province extends from 26 degrees north latitude to 32. The culture of the vine there was and is prohibited by the orders of the Spanish crown, to prevent the interference of their colonial agriculture with the wines, brandies, and dried grapes, which are produced in every province of European Spain. This royal law was not made and continued without a conviction in the successive councils of Spain, that the culture of the vine was practicable in Spanish N. America. But the capacity and production of the extensive district of Cohauila, is fully proved by the printed report* of Don Miguel Ramos de Arispe, curate, or rector of the Spanish church of Bourbon, and deputy from the American province of Cohauila to the Cortez, which report was printed at Cadiz, in A. D. 1812.

Cohauila is bounded on the north by Texas, and New Mexico; on the east and south by St. Louis, Potosi, Zacatecos, New Leon, and New St. Ander; and west by New Biscay. Its northern part is west of the states of Alabama, Mississippi and Louisiana, from their coasts on the gulf of Mexico to the latitudes of Natchez, Washington, Mass. and a few minutes north,—

3 This is the boasted Norfolk course of crops.

* For sale by Mr. Mellish at Philadelphia.—The rivers of Cohauila are the Rio Bravo del Norte, or Grande, or Medina, Santa Rosas, Pararas, Meillos, Nadadoes, and St. Domingo.

Cohauila is also west of the whole coast of Georgia and East Florida; the south cape of the Savannah river being about 32 degrees north. The precise situation of this well established Spanish North American vine district is of great consequence, as a positive proof that no part of the United States is too far south, or too hot for the vine. It is probable that the exotic grapes in Spanish America have been brought from European Spain, and that their wines are like those of the mother country. This fact gives us a reasonable hope of making such wines as those of Xerxes and St. Lucar, which are all often called Sherry. It is distinctly and officially stated by the deputy from Cohauila to the cortes of A. D. 1812. (Don J. Ramos de Arispe,) that this N. American province produces considerable quantities of good wine, a number of districts and vineyards giving wines as delicious as those of Castile in Spain. He adds, that their raising of wine is one of the most productive branches of their agriculture, and so great that they supply their neighbouring colonies, and even send some of the finest to Mexico, where they must sustain a competition with those of the Metropolitan European country.

It is remarkable that the Spanish and Portuguese nations have established more considerable, more excellent, and more profitable vineyards in their colonies and islands, than all other European nations, and Cohauila appears to equal any colony of Spain.

On the whole, the profitable growth of the vine and the manufacture of wine, in the northern section of the American continent, from the southern part of Cohauila, in 26 degrees north to the vicinity of Columbia, in S. Carolina, in thirty three degrees, and to the first rising country in N. Carolina in 34 degrees to 36 degrees 30 minutes, and to Glasgow, in Kentucky, in 37 deg. north, and to Vevay and Harmony, in Indiana, in 38 degrees 30 minutes, to 38 degrees 45 min. give us the most indubitable assurances of a vine district, or a vine region in the United States, from our coast on the gulf of Mexico, northward to the end of the 39 h deg. This is a matter of the greatest direct interest to that extensive country of the vine of the United States, and must have the most sure and favourable effects in the settlements of its lighter lands with a free white population, as in Spain, Portugal, Italy, the south of France, of Germany, and of Switzerland. It will also benefit the cultivators of cotton, sugar, tobacco, and rice, by preventing the overdoing of their productions, as they may be respectively in danger of being too plentiful in the markets of the United States and of foreign countries. But the vine cultivation will also be important in employing the population and labourers south of the fortieth degree, (with cotton, rice, and sugar,) so as to leave the more of the culture of grain, and the breeding of working and meat cattle, and the catching of sea fish, to the states north of the 39th degree.

A measure of manifest importance to the thorough investigation of our capacity and actual inceptions in the vine and wine business, is now proposed to be suggested to all persons of experience in the culture of the grape vine, and the manufacturer of wine, in those parts of the U. S. where the vine cultivation has been attempted,

on a great or small scale. The respectable gentleman who superintends the vineyards at our American Vevay, has happily led the way. In the second number of this series, his interesting statement is given. It will serve as a guide to those who may follow him, which they may use to advantage, adding whatever has occurred within their own experience, or in their observations upon their neighbours and their books. It appears that a difference of two weeks between the crop time or vintage of Vevay and Glasgow, in Kentucky, is stated. The latter place is supposed to be a little more than one hundred miles due south of Vevay. The difference of two weeks in the time of gathering is therefore worthy of attentive consideration. It is observed that the country in which our Glasgow is situated is called barren country. If the name has been given from the inferiority of the soil, compared with the better counties, then the success of the vine in soil lighter (if it so be) than that of Vevay, and with a degree and a half more of southing, and perhaps in a dryer or even an arid country, would be matters of curiosity and of interest. The history of "the great tun of Glasgow," Mr. Merchod's large cask, and of his vineyard from the beginning, with its present state and prospects, would be useful and entertaining to the public. An account of the Scuppernong, and other grapes of North and South Carolina, especially in the vicinity of Raleigh and Columbia, would be also of much interest; and the more so, because it is considered by persons of experience and observation that there is a strong similarity of temperature, and a sufficiency in soil, between the French claret, Sauterne, Grave, and Hermitage wine country, and our country in the two Carolinas, Tennessee, Georgia, Alabama, and Mississippi, and westward in the whole 34th and 35th degrees of north latitude.

We shall conclude this paper by a few remarks intended to remove those doubts and those objections which prudence, or the interest of judicious foreigners, of countries which now have the profits of supplying us with wines, brandies, and dried fruits, very naturally offer. It is no longer a speculation in the possible or probable fitness of our climate, soil, and country, for the various kinds of grapes and wines. We find in Cohauila from 26 to 32 in our hemisphere, on our continent, in the northern section of it, in a new and much wooded country, between the Atlantic and the Pacific, that the vine succeeds in quantity and quality, though prohibited by the government.

We find also, that in a place so far north as Vevay, five hundred gallons have been produced by the acre of land, and that the vine is equally prosperous at Harmony, in Indiana; and more so at Glasgow, in Kentucky. The fitness of the intermediate country, in the proper situations, which offer to us in every county, cannot be doubted. It is respectfully recommended, that the assistance of the marshals in the United States be directed to inquire into and report every case of a regular vineyard, great or small, at which wine has been regularly manufactured, of what age and kind of grape, in what quantity and of what quality, and colour.

A friend to the National Industry.

Philadelphia, Nov. 6, 1819.

Articles of Association

Of the Agricultural Society of the County of Trumbull

IN THE STATE OF OHIO.

ARTICLE 1. The name of the Society shall be the Agricultural Society of the County of Trumbull: And the objects of the society are the Promotion and improvement of Agriculture, Rural Economy, and Domestic Manufactures.

Art. 2. Every member of this society shall subscribe these articles, or a copy thereof attested by the recording secretary, and shall pay, at the time of subscribing, or within one month thereafter, to the treasurer, for the use of the society, one dollar: he shall also pay, in like manner, at such time, *annually*, as shall be directed by the by-laws of the society, one dollar, so long as he continues a member: And whenever a member chooses to withdraw, he shall have liberty so to do on giving notice in writing to the recording secretary, and paying all arrears and dues, including the then current year.

Art. 3. The officers of the society shall consist of a president, two vice presidents, a corresponding secretary, a recording secretary, a treasurer, and an auditor, to be chosen by ballot; and such other officers as the by-laws of the society shall direct.

Art. 4. The first meeting of the society shall be held at Youngstown, at the dwelling house of James Hillman, on the 18th day of January, A. D. 1819; at which meeting, and at any future stated meeting of the society, the members present shall have power to make such by-laws and regulations as they shall deem expedient, for carrying into effect the objects of the society.

Art. 5. No salary or other pecuniary reward shall be allowed to any officer or committee of the society, for discharging their official duties; neither shall any contributions, in any form, be exacted by the society from its members, excepting as is herein provided.

Art. 6. No alteration shall be made in any of these articles of association, except at some stated meeting of the society; and all such alterations shall be submitted at *one* stated meeting and shall not be definitely acted upon until the *next* stated meeting of the society; and in all cases two thirds of the members present shall concur in such alteration.

BY-LAWS.

Adopted by the Agricultural Society of the county of Trumbull, at their general meeting, on the 18th of January, 1819.

1st. There shall be two stated meetings of this society, in Youngstown, annually, until otherwise directed, on the third Thursdays in October and January, at ten of the clock in the morning. Not less than ten members shall constitute a quorum.

2d. Special meetings of this society may be convened by the president or the executive committee. Notice of all meetings of this society shall be given, by publishing the same in one or more newspapers printed in this state, at least fourteen days before the time of any such meeting.

3d. On this day, and on the third Thursday in January in each year hereafter, between the hours of 11 o'clock, A. M. and 6 o'clock, P. M. the several officers of this society, and members of

the respective committees, shall be chosen, to continue in office for one year, and until others are chosen in their stead.—All committees shall be chosen by nomination, unless a majority of the members present shall otherwise direct: and the respective awarding committees shall designate one of their members to be their chairman, and shall give notice of such designation to the recording secretary.

4th. The president of this society, and in his absence, one of the vice presidents, shall be chairman of the executive committee. The president for the time being, shall, in all cases, have one vote, and in case of an equal vote, shall have the casting vote. He shall superintend the concerns of this society—shall cause the by-laws and doings thereof to be carried into effect, and shall sign all diplomas granted by the same.

5th. The vice presidents shall be chosen, with the designation of first or second vice president, and shall officiate in that order.

6th. The corresponding secretary shall conduct the correspondence of this society, subject to the direction of the executive committee.

7th. The recording secretary shall record the proceedings of this society and of the executive committee in separate books; and shall keep the same at all times subject to the inspection of said committee: He shall keep the seal of the society and use the same under the direction of the president: He shall countersign all diplomas signed by the president: He shall keep a record of the names of the members and of the officers of the society, and deliver a list of the same to the president, at the meeting in January, annually.

8th. The treasurer shall collect and receive all moneys due and belonging to this society, and pay out the same on orders drawn by the auditor and certificates made by the awarding committees, pursuant to the regulations of this society. He shall keep regular accounts of all receipts and disbursements, in a book for that purpose, which shall always be open for the inspection of the town and executive committees. He shall, previous to the annual meetings in January, exhibit to the president a regular account of all receipts and disbursements of the year approved and signed by the auditor; And at the same time he shall exhibit a list of the names of the persons in arrear and the sums due from each; shall give bond for the faithful discharge of his duty, in such sum and form, and with such surety as the executive committee shall direct; and when his office expires he shall pay over the funds of the society, and deliver the books of the treasury to his successor in office.

9th. The auditor shall examine the vouchers and adjust the treasurer's account on the second Monday of January, annually, and report to the society at their stated meeting in the same month. He shall, also, examine and audit all claims on the society for contingent or incidental expenses, and draw on the treasury for such sums as shall be found justly due.

10th. The general administration of the affairs of this society shall be vested in the executive committee, which shall consist of the president, vice president, the corresponding and recording secretaries, the treasurer, auditor and the regular chairman of each of the three award-

ing committees; any four of whom shall constitute a quorum. The committee shall meet at least four times in each year. The president, or in his absence one of the vice presidents, shall give notice to the members of the time and places of such meetings. They shall have power to designate the objects for premiums and determine the value of each premium to be awarded: shall regulate the annual cattle show; determine the time of the meeting of the several awarding committees; and do all such other acts, consistent with the general and avowed principles of this association, as they may judge necessary for promoting the objects of the society.

11th. No premium shall be awarded without a competition, unless the committee of awards shall deem the claim highly meritorious.

12th. There shall be a committee on the cultivation and improvement of lands; a committee on the quantity and quality of produce; and a committee on domestic animals and manufactures. The premiums proposed by the executive committee shall be awarded in the following manner: those on the cultivation and improvement of lands by the committee on that subject; those on the quantity and quality of produce by the committee on that subject; and those on domestic animals and manufactures by the committee on that subject. Which committee shall severally consist of nine persons, any five of whom shall be a quorum to award the premiums; and any three of whom shall be deemed a sufficient number for the business of examination or inspection. And the several awarding committees shall make out and sign certificates and duplicate certificates of their several awards and transmit the same to the president of the executive committee, who shall, with the advice of the committee, certify his approbation thereof, and deliver the same to the person in whose favour the award was made, or to the heirs or legal successors of such person, and to none other; which duplicate certificate shall be considered as an order for the payment of the money or the delivery of the thing awarded. And if no such person shall appear to claim any such premium within three months from the time of award, it shall be held to have reverted to this society.

13. There shall be a committee consisting of not more than five persons in each town in this county to superintend the concerns of this society in their respective towns. They shall distribute all seeds, scions, plants, animals, books, &c. that may be committed to them for that purpose.—They shall examine any improvements on lands offered to be entered for premiums, and if in their opinion the improvement is so important as to be entitled to an examination by the committee on the cultivation and improvement of lands, they shall give said committee notice, and it shall be the duty of the said committee to attend for that purpose. They shall receive all communications which shall be offered to them in writing or otherwise, respecting experiments or improvements in agriculture; and if they shall find such communications sufficiently meritorious they shall lay them before the next meeting of this society.

14. There shall be a committee of publications consisting of five persons, whose duty it shall be to superintend and correct whatever is design-

ed for the press, and they shall have access to any and all the papers of this society.

15. The annual dues of the members of this society shall be paid to the treasurer on or before the third Thursday in October, yearly and every year.

16. In all cases when the president nor either of the vice presidents shall attend as members of the executive committee, the members attending may designate one of their number to preside for that meeting.

17. All officers in this society shall be elected by a majority of the votes given in.

FOR THE AMERICAN FARMER.

PROCEEDINGS OF THE AGRICULTURAL SOCIETY OF ALBEMARLE.

*Papers communicated for publication by the corresponding committee **

On Hessian Fly,---No. 1

READ, NOV. 1, 1817.

Bremo, October, 1817.

SIR,—Believing the following facts to be new in the natural history of the Hessian Fly, I deem them worthy to be communicated to the Society:—

1st.—That this destructive insect deposits its eggs on the blades of the wheat indifferently, at from half an inch to three inches from the main stock, or central shoot:

2d.—That they remain upon the blade, in the egg state, from 5 to 7 days at least:

And 3d.—That they are hatched into the worm or maggot on the blade.

That the egg is deposited on the leaf or blade of the wheat is discoverable by close examination to the naked eye; but may be put out of all dispute, to the dullest sight by the aid of a magnifying glass. The upper surface of a blade of wheat is formed into alternate ridges and furrows, running longitudinally, and the eggs are so sunk in the furrows, that they will not be disturbed by drawing the blade through the fingers and thumb under a considerable pressure. The shape of the egg is cylindrical rounded at the ends, and at first in colour and appearance resembles a piece of amber, but as it approaches to hatching, assumes a redder cast. On the 9th of October, I first discovered the eggs on a piece of lawer, or fly proof wheat, which had been sown as early as the 22d of September. The plants at that time, generally had three leaves, and there seemed to be a manifest preference in the flies to place their eggs on the second or middle blade, but they were found indiscriminately scattered upon the surface of this leaf from half an inch to three inches from its point of contact with the central shoot. In several instances, as many as forty eggs were counted by the aid of a glass on a single blade.

Particularly eggs which were identified from day to day until they hatched, were found to remain upon the leaf the shortest period of time, five days, the longest seven. How long they had been deposited when they were first discovered is uncertain, but it is presumed some days, as the flies appeared in numbers out of all proportion small to the vast number of eggs. In two instances only were the eggs discovered at the instant of their being laid by the flies, and in both of these cases the plants were destroyed in removing them to the house to subject them to closer examination. And thus the attempt was defeated to fix the period more definitely, that the egg remains exposed on the leaf.

As soon as the eggs hatch, the worms commence their journey down the blade to its point of contact

* These papers have already been published in the Richmond Inquirer.

with the main stock, and then down between the boot and the embryo stalk, which it envelops to the union of the boot and stalk at the crown of the plant. Some of the worms were detected in the act of moving down the blade,—but for the most part, after the disappearance of the eggs from the blades. By stripping down the boot, the worms were found in a state so minute as scarcely to be discoverable to the naked eye, lodged near the root, just at that part of the plant which is the seat of all their mischief and where they are found in the subsequent crystalis state. When they have once placed themselves in this situation they are clearly beyond the reach of all remedies—but the fact being established that they remain from five to seven days at least on the blades of the wheat, seems to hold out some prospect, that means may be resorted to, which will at least diminish if not entirely destroy them. May it not be an experiment worth trying, to watch the progress of the flies, and as soon as they are found to have deposited their eggs to graze the crop closely off? There are many difficulties which present themselves to carry this suggestion into practice upon a large scale, but against so great an evil a partial remedy is better than none—if successful, possibly it may be found capable of extension sufficient for the object.

Publications have already appeared, stating the temptation of grazed wheat, from the wide spread predations of the fly, last spring—but my knowledge of the insect at that time, not extending further than the crystalis state in which they are so manifestly inaccessible to any remedy that would not triplicate the point, my mind naturally referred the effect to some other cause. Now it is clearly to be comprehended, that this destructive insect may have been devoured in the egg state, with the leaves of the wheat.

J. H. COCKE.

PETER MINOR, Esq.
Secretary of the Agricultural
Society of Albemarle.

Occasional Extracts.

27th, Nov. 1819.

Mr. Skinner.—I saw in a late number of the American Farmer, your attention invited to the subject of reclaiming marshes. You could confer a peculiar favour upon myself, by endeavouring to collect as much information as possible upon this interesting operation. It is becoming daily more important to us.

A SUBSCRIBER.

Western Shore of Va.

Near Frankfort, Ky. 8th. Nov.

Mr. Skinner.—We are still without rain, such a drought was never known here. I nevertheless believe the crops, in this county, will be but little short of a medium crop—ne is fully one.

Have you in your county the dreadful lady which effects the horses in this state, I in the state of Ohio as far as I can learn, which in many places, has been extended to the cattle and hogs? I mean the sore-gue. It commences with white blisters on the tongue—it becomes raw in a few hours. It extends to the mouth and lips—a great deal of saliva is discharged—the horse if not cured becomes incapable of eating—the tongue rots off, and death ensues. It is atten-

led with fever and costiveness. It is generally believed to be contagious, although it is admitted that some horses have not taken the complaint, that have been fed with those that had it, and many have taken it that have never been so exposed. It is considered completely within the power of ordinary remedies if applied in time, and the horse not over-hard—purgatives are used by some—bleeding by others—but generally some astringents to cleanse the mouth, &c.—alum, saltpetre, coparas, vinegar, decoctions of oak bark, of the root of the iron weed, &c. &c.; are used by many, the three former most generally. The power of those three, and assafœtida separate or combined, have been tried on the bit of the bridle as a preventive, and used with success. As soon as I heard it was in this neighbourhood, I took measures to keep my horses from those that had it, and to have them regularly fed and salted. I have so far escaped, but this may be for a time only.

This disease was in this state and Tennessee in 1801 and 2. I was travelling and my horses had it, but it was not as general nor as virulent in its symptoms as this year. I then heard of no fatal cases. Is this disease prevalent in other parts of the Union?

Prince George's County, Dec. 4th, 1819.

Mr. Skinner.—There is a subject closely connected with the object of the American Farmer, which I wish you to take in hand, is the progress of agricultural improvement must always be limited without attention to it. I allude to the necessity of impressing upon landholders, the great advantages to be derived from leasing lands for a term of years over that of renting for one year; with proper restrictions, and requisite arrangements for the improvement of a worn out soil. So thoroughly am I convinced of the incalculable advantages to be derived from a change in the present mode of renting land, both to the landlord and tenant, that I almost think the state Legislature could not do a better act, than to repeal all the laws for the speedy recovery of rents, when the property had been let for the short time of one or two years. It is this system that is depriving us of all that valuable part of our population for a considerable extent, quite along our seaboard, and which will, ere long, leave our society in the worst possible state, consisting of those who are very rich, and those who are extremely poor; and all history teaches us that this condition of society does not endure long, it either yields to domestic intrigues or foreign invasion. Fortunately for us is very limited in our country, but confined as it is, we should get rid of it if practicable.

J. K.

Harper's Ferry, 27th, Nov. 1819.

Mr. Skinner.—I have just observed in one of your papers, (26) an inquiry relative to a

Machine for breaking up ears of corn. A new one since a cast iron Bark Mill was invented, which has been found very useful for grinding bark. It somewhat resembles a Coffee Mill. If not too expensive, it might be found useful also for breaking ears of corn.

Washington, 4th Dec. 1819.

Mr. Skinner.—Noticing this day your inquiry, "whether any mill, or other machine, has been invented for breaking Ears of Corn—Cob and all, without shelling?"

I with pleasure inform you I have been using such for many years, and I consider them invaluable to those who feed their stock much on Corn—besides they answer admirably for breaking Plaster, preparatory to its going into the hopper for grinding. The Iron Screw will cost about \$40, the Millwright's bill ought not to be more than \$20 for attaching them to the machinery of any Mill—mine have been made and put up by my own smiths and carpenters, and are to be seen in my mills at Mount Airy, Richmond county, and at Neabsco, near Dumfries, Va. as also in my Middlebrooke mills, (late Lingan's) in Montgomery County, Md. on the road from this to Fredericktown. There is a model, (though never patented) in Dr. Thornton's hands at the Patent office, sent him by Mr. Thomas T. Page of Va.—Yours, &c.

JOHN TAYLOE.

Frederick County, Md. Nov. 30, 1819.

MR. SKINNER.

Dear Sir,—In No. 35 of the Farmer you request to be informed whether "any mill or other machine has been invented for breaking up ears of corn, cob and all without shelling." Being at Major Robert Lyon's on Sunday last the 20th inst. he informed me he had just put up such a machine in his mill on his estate about 10 miles from your city. I understood it to be of cast iron, on the principle of the plaster braker, and erected under the impression that corn used in this way makes a most excellent and economical food for any kind of stock. Mr. Lyon made the experiment some years since, and found it essentially serviceable.

Respectfully, Your obt. servt.

W. V. B.

P. S. The patent cast iron bark mill will I think, answer the purpose; indeed I have no doubt of it, as it is excellent for getting out clover seed.

Mr. Bordly is I think the inventor of the clover seed rake. A thought occurred to me after writing thus far, to try the strength of the cob by boiling, which I have had done; it has a strong taste, but I do not believe it can be boiled to a pulp—it may nevertheless be nutritious. I have not seen in your useful paper any description of the threshing machine lately exhibited at the farm of Robert Smith, Esq. Have you seen it, and what is your opinion thereof? Is it likely to get into general use? Excuse the liberty I have taken and the trouble I put you to.

W. V. B.

THE FARMER.

BALTIMORE, FRIDAY, DECEMBER 10, 1819.

On the use of Oxen in Husbandry.

We propose to devote a considerable portion of some succeeding numbers, to the publication of the interesting facts and reasoning, we have lately collected; to show the advantage that would result to the Agricultural community, by the substitution of Oxen, in place of Horses, for the common purposes of Husbandry.—The more we examine and reflect upon the subject, the more we are convinced of the justice of Mr. Madison's suggestions on this point, to be found in the 178th page of this volume, commencing with the declaration that he could "not but consider it an error in our husbandry, that oxen are so little used in place of horses."

In the course of these publications, engravings will be introduced, to show the different manner of gearing them in different countries.

FROM THE SPECTATOR.

*Illic gelidi fontes, hic mollia parata, Lycori,
Illic nemus, hic toto tecum consumerer ævo.*

VIRG. Ecl. 10. v. 42.

Come see what pleasures in our plains abound;
The woods, the fountains, and the flow'ry ground:
Here I could live, and love, and die with only you.

DRYDEN.

Hilpa was one of the hundred and fifty daughters of Zilph, of the race of Cohu, by whom some of the learned think is meant Cain. She was exceedingly beautiful; and when she was but a girl of three score and ten years of age, received the addresses of several who made love to her. Among these were two brothers, Harpath and Shalum: Harpath being first-born, was master of that fruitful region which lies at the foot of Mount Tirzah, in the southern parts of China. Shalum (which is to say the planter, in the Chinese language) possessed all the neighbouring hills, and that great range of mountains which goes under the name of Tirzah. Harpath was of a haughty contemptuous spirit; Shalum was of a gentle disposition, beloved both by God and man.

It is said that, among the antediluvian women, the daughters of Cohu had their minds wholly set upon riches; for which reason the beautiful Hilpa preferred Harpath to Shalum, because of his numerous flocks and herds, that covered all the low country which runs along the foot of Mount Tirzah, and is watered by several fountains and streams breaking out of the sides of that mountain.

Harpath made so quick a dispatch of his courtship, that he married Hilpa in the hundredth year of her age; and being of an insolent temper, laughed to scorn his brother Shalum for having pretended to the beautiful

Hilpa, when he was master of nothing but a long chain of rocks and mountains. This so much provoked Shalum, that he is said to have cursed his brother in the bitterness of his heart, and to have prayed that one of his mountains might fall upon his head if ever he came within the shadow of it.

From this time forward Harpath would never venture out of the valleys, but came to an untimely end in the two hundred and fiftieth year of his age, being drowned in a river as he attempted to cross it. This river is called to this day, from his name who perished in it, the river Harpath: and, what is very remarkable, issues out of one of those mountains which Shalum wished might fall upon his brother when he cursed him in the bitterness of his heart.

Hilpa was in the hundredth and sixtieth year of her age at the death of her husband, having brought him but fifty children before he was snatched away, as has been already related. Many of the antediluvians made love to the young widow, though no one was thought so likely to succeed in her affections as her first lover Shalum, who renewed his court to her about ten years after the death of Harpath: for it was not thought decent in those days that a widow should be seen by a man within ten years after the decease of her husband.

Shalum falling into a deep melancholy, and resolving to take away that objection which had been raised against him when he made his first addresses to Hilpa, began immediately after her marriage with Harpath, to plant all that mountainous region which fell to his lot in the division of this country. He knew how to adapt every plant to its proper soil, and is thought to have inherited many traditional secrets of that art from the first man. This employment turned at length to his profit as well as to his amusement; his mountains were in a few years shaded with young trees, that gradually shot up into groves, woods, and forests, intermixed with walks and lawns and gardens: insomuch that the whole region, from a naked and desolate prospect, began now to look like a second paradise. The pleasantness of the place, and the agreeable disposition of Shalum, who was reckoned one of the mildest and wisest; of all who lived before the flood, drew into it multitudes of people, who were perpetually employed in the sinking of wells, the digging of trenches and the hollowing of trees, for the better distribution of water through every part of this spacious plantation.

The habitation of Shalum looked every year more beautiful in the eyes of Hilpa, who after the space of seventy autumns, was wonderfully pleased with the distant prospect of Shalum's hills, which were then covered with innumerable tufts of trees, and gloomy scenes, that gave a magnificence to the place,

and converted it into one of the finest landscapes the eye of man could behold.

The Chinese record a letter which Shalum is said to have written to Hilpa, in the eleventh year of her widowhood. I shall here translate it, without departing from that noble simplicity of sentiments, and plainness of manners, which appear in the original.

Shalum was at this time one hundred and eighty years old, and Hilpa one hundred and seventy.

"Shalum, Master of Mount Tirzah, to Hilpa, Mistress of the Valleys.

"In the 788th year of the reation.

"What have I not suffered, O thou daughter of Zilpha, since thou gavest thyself away in marriage to my rival? I grew weary of the light of the sun, and have ever since been covering myself with woods and forests. These threescore and ten years have I bewailed the loss of thee on the tops of Mount Tirzah, and soothed my melancholy among a thousand gloomy shades of my own raising. My dwellings are at present as the garden of God; every part of them is filled with fruits, and flowers and fountains. The whole mountain is perfumed for thy reception. Come up into it, O my beloved, and let us people this spot of the new world with a beautiful race of mortals; let us multiply exceedingly among these delightful shades, and fill every quarter of them with sons and daughters. Remember, O thou daughter of Zilpha, that the age of man is but a thousand years; that beauty is the admiration but of a few centuries. It flourishes as a mountain-oak, or a cedar on the top of Tirzah, which in three or four hundred years will fade away, and never be thought of by posterity, unless a young wood springs from its roots. Think well on this, and remember thy neighbour in the mountains.

Having here inserted this letter, which I look upon as the only antediluvian *billet-doux* now extant, I shall in my next paper give the answer to it, and the sequel of this story.

*** Bills have been sent to those who have forgotten to pay their dues in advance, according to the well known terms of this paper. We say *forgotten*, because we are not disposed to believe, that any gentleman would willingly disregard an obligation of this sort particularly, when it is recollected that the Editor is bound, both by inclination and contract, to pay off PRINTER, PAPER-MAKER and ENGRAVER, every week.

BALTIMORE,

PRINTED EVERY FRIDAY,

For John S. Skinner.

AT FOUR DOLLARS PER ANNUM.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O Fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, DECEMBER 17, 1819.

NUM. 38.

AGRICULTURAL.

FOR THE AMERICAN FARMER.

On the advantages to be derived from the more
GENERAL USE OF OXEN,

FOR THE COMMON PURPOSES OF

AGRICULTURE;

AND ON THE BEST MODE OF GEARING THEM.

Illustrated by an Engraving.

No. I.

Port Tobacco, 1st Dec. 1819.

MR. SKINNER, Sir,—I have often observed, in the few excursions I have made through this and the neighboring state to the south, with much regret, sometimes indeed with mingled pain, with what neglect, contempt, and even harshness, my countrymen are in the habit of treating their labouring cattle. Of the several species, the horse generally fares best; there is something so sprightly and attractive in his constitution, that he imperceptibly wins the regard of his master; and, thus too often, comes in for more than his share, among his fellow labourers, of his owner's kindness and attention. The generous qualities of the pleasure horse, and the proud vivacity of the courser, begets in men an affection for the whole race, extended even to the homely drudge that drags the plough, to the disparagement and prejudice of the ox, the ass, and the mule, whose claims are in many respects much superior.

These observations have induced me to make some enquiry into the relative merits of the several species of beasts of burthen used in agriculture, and to reflect upon the manner of treating and working them to the greatest advantage.

There are four points of view in which the value of labouring cattle may be compared and estimated, their first cost, their work, their necessary food, and their utility after working.

We have in our country only three species of beasts of burthen in common use, the horse, the ox, and the mule; for, I believe, the ass is nowhere in common use. The price of these animals, like every thing else, varies considerably with time and place—and I may add, that their prices have not always either, been graduated simply by the demand for them, or by their real utility; but by a sort of fashion or caprice. I have known times when, and even now, in some neighborhoods, a good mule would command the price of more than a pair of well broke oxen. But laying aside this kind of temporary or neigh-

borhood whim, I think it may be assumed as a general relative price current, of these labouring animals, that a good work ox can be purchased for one half the price of a horse, and one third less than a mule, equally good of their kind.

Neither of these three species of animals are fit for labour sooner than three years old. In that interval of useless infancy, the horse requires very particular attention. During the winter season he should have some grain, be carefully housed and well provided with good rack food. The mule requires less attention, but it not more carefully raised than an ox, his size and powers will be very inferior. The ox requires only common pasture during the summer, and to have the advantage of the farm-yard shed, with hay or straw in the winter. It is admitted on all hands, that the ox makes double the quantity of manure during the same time, of either of the other animals, owing to his consumption of a greater mass of coarse food which is not so thoroughly masticated, as the better kind, taken in by the horse. From the system of husbandry prevalent in the lower parts of this and the state of Virginia, where cattle have the range of the extensive marshes bordering on the tide water, it may be asserted with confidence, that the rearing of a three year old steer will not cost the farmer one third as much as to raise a horse or mule to the same age. Hence it appears that the farmer, with the same cost and care, can have two or three teams of oxen for one of horses or mules, with a proportionate increase of manure.

The great improvement in the discipline and management of the horse, and his active movements, have given him a decided preference in many kinds of service; but, as a strong labourer, he is in all respects equalled, and in many surpassed by the ox. The docility and sagacity of the horse is very remarkable, indeed, in some respects surprising; but that of the ox is no less so. It has been noticed in all countries and the most remote ages—we are told in scripture, that "the ox knoweth his owner." And this patient, willing labourer awakened a sympathy so lively as to induce the Jewish lawgiver to to enact a special provision in his behalf for it was declared as a law to the children of Israel, that "Thou shalt not muzzle the ox when he treadeth out the corn"—while, on the other hand, it would seem to be a fair inference from the prohibition, ("Thou shalt not let thy cattle gender with a diverse kind,") contained in the nineteenth chapter of Leviticus, that the ugly mule race was much despised or wholly unknown in Judea.

With the same measure of attention and kind treatment, the ox is certainly the most docile and tractable of three several species of beasts of burthen. If he has not the gaiety of the horse, neither has he that fretful restiveness of temper which renders the horse, at times, entirely unmanageable. Neither is the ox ever influenced by the sulky perverseness of the mule. The ox has one excellence peculiar to himself—he is steady, willing and firm to the last—he never balks—at a steep pinch, or heavy pull, a yoke of oxen are the sheet anchor of the team—if they cannot move forward, they will at least hold their ground to the utmost of their strength.

As to the question, which of the three species of labouring quadrupeds are best suited to our hot summers, and to our climate in general? It can only be answered by experience and observation—it is believed, however, that so far as we may be allowed to adduce the experience of other countries, there can be no doubt upon the subject. In various parts of India within and near the tropics, the ox is used for all purposes, for travelling and riding, as well as heavy labour. In all parts of Spanish America the ox is used as a labourer; and great numbers are imported into the West Indies annually, from the Spanish main, as beasts of burthen.

But the ox is said to be slow and unwieldy in his pace. It must be admitted, that as a racer, or fleet traveller, he is far inferior to the horse in all countries, and under every state of discipline and improvement. But, with the agriculturist, the sole enquiry, upon this subject is, which of these three kinds of animals can perform the greatest amount of heavy labour in the shortest time and at the least expense? Because for the purposes of hard work neither of them can be pushed faster than a common walk.

Neat cattle are so very valuable in various ways, that, in selecting a stock for rearing, almost all their uses are more attended to than that of their labour. In breeding horses we generally have but one object in view, that is, their capacity for service; but in rearing neat cattle, the principal objects are to improve the quality and quantity of every part of the body of the animal, as well as to increase the quantity of milk and butter—and, in carefully attending to these objects the improvement of the capacity of the animal, for service, is too often wholly overlooked.

Judging from the account which you, Mr. Editor, have given us in the first No. of your paper, of the two large bullocks raised by Mr. Barney, I am satisfied, that there is nothing in our climate or country adverse to the de-

velopment of the greatest excellencies of the ox in every respect whatever. Of the two bullocks there spoken of, Columbus, or the American, appears to me from the drawing of him, to be of the true and best stock for all purposes; his legs were long in proportion to his body, and he was much taller in proportion than the English cattle that have been imported into our country as breeders, and his enormous weight is a proof, that cattle of such proportions are as eminently suited for fattening and for beef as any other, the English notion about short legs and broad buttocks to the contrary notwithstanding. From what I can learn the quantity of milk given by a cow is by no means governed by her external shape. Hence it would appear that the proportions best suited for service may be particularly attended to without in the least deteriorating the breed in other respects.

The cattle of the great plains of Buenos Ayres, and in the valleys of Chili are alike remarkable for their activity and sprightliness. Except the sleepiness of countenance, expressed in the drawing of the ox Columbus, they are, in general, nearly of the same make and proportions. They are long legged, tall, and have great facility of progression, a proof of which is the undeniable fact, that the oxen of Buenos Ayres travel day after day, for a month together, with heavy loaded carts much faster than the common west country teams of the United States. Quick movements cannot be expected of the round duck-legged European breeds, with which the fine tall cattle of our country have been to often crossed and spoiled. It would seem, that, even in England, farmers are beginning to get out of the notion of their squat round pretty cattle. The ox is beginning to be attended to as a working animal more than formerly; and, consequently his speed is considered as one of his excellencies. In some parts of England they have ox races; and it is said, that some years ago an ox ran four miles over the course at Lewis, for 100 guineas, at the rate of fifteen miles the hour: this was certainly not one of the low waddling family.

We are told that in India bullocks are used for the saddle and coach, and that their travelling oxen are curried, clothed, and attended with as much solicitude, and much greater kindness than we bestow on our best horses. The Indian cattle are extremely docile, and quick of perception, patient and kind; like the horses, their chief travelling pace is the trot, and they are reported by those who have ridden them often, to perform journeys of sixty successive days, at the rate of thirty to forty-five miles per day.

The ox may be worked to advantage from three until he is ten or twelve years of age, and can then be fattened, and will make excellent beef. Upon the whole, in whatever point of view the several species of labouring quadrupeds be compared, the ox seems to be decidedly the best for all agricultural purposes; and indeed, the point seems to be admit-

ted by all the most skillful and intelligent farmers who have turned their attention to the subject.

There are three methods of yoking or harnessing this valuable animal to the cart or plough; the English, which is that of our country, and therefore need not be described; the French; and the Spanish methods. They are each essentially different, and each have their modifications. The question as to which of the three is the most judicious and best, involves, in some degree, the comparative anatomy of the animal, and an enquiry to ascertain the seat of his greatest power. The neck is obviously and proverbially the seat of the strength of the bull, and his horns are his weapons of attack and defence. The chief vigor of the animal seems to be thrown into his neck for the purpose of enabling him to wield those weapons with the greatest effect. The question is then, where and how the yoke should be placed on his neck, so as to enable him to exert his greatest power in propelling it forward.

It will be proper, in considering this matter, to attend it to the ordinary position of the animal, and the attitude he assumes when provoked or urged to put forth all his powers, and to exert his greatest strength. When a bull stands quite disengaged and at rest, his forehead rises backward from his nose to his horns at an angle of about forty-five degrees from the horizon; and his horns most commonly project forward at about a right angle with the line of his forehead. But when the animal throws himself into an attitude of attack, and prepares to exert all his strength against an antagonist, his head is lowered near to the earth, his nose is bridled back, and his horns range nearly in a horizontal line; and when he moves forward, his whole power is thrown upon his horns, which not unfrequently are snapped short off by the potent push, without in the least injuring his neck. Hence it appears, that the line of greatest force, as thus exhibited by the animal himself, is from the root of the horns, with the neck a little depressed, passing below the middle of the body. Another proof of this being the true line of an ox's greatest force, may be observed by the attitude which oxen assume when yoked according to the method of our country, and urged forward to exert all their powers in draft; in such cases they uniformly depress the neck and head, and assume the attitude of the bull in battle. It has thus seemed to me to be strongly indicated by nature, that the point of draft should be attached to the neck as near as practicable to the root of the horns; because to that point, when left to the dictates of nature the animal directs all his power when occasion calls it forth.

The American mode of yoking is open to many and very substantial objections; the first is that the line of draft is too high, and not in the line of the animal's natural force. If the bow be wide it admits of too much friction, and

the yoke soon chafes the neck into a sore; if it be narrow, it is apt to obstruct the circulation in the vessels of the neck, and thus do material injury—if the bow be long it suffers the yoke to slip back nearly to the withers; if it be too short it is apt to obstruct the freedom of respiration—and in hot weather, in whatever way the yoke be adjusted, according to our mode, it very frequently galls and makes the neck very sore, or the bow galls the shoulders.

The French method of yoking is thus described—the labourer passes a piece of wood, of about one sixth of the weight of the English yoke, across the forehead of his cattle, having previously neatly hollowed out the extremities of it to fit the mould of the head, and lined those hollows with a piece of woolly sheep-skin, to answer the purpose of a soft pad or cushion. This light and easy yoke he braces to the horns with a small thong of leather, attaches the beam of his plough to the middle part of it, and the animal is completely equipped for his labour.

This method seems to place the line of draft very nearly where it should be; but, although much better than ours, it is liable to some objections. The pressure must, occasionally, be too great on the front bone of the skull, which is by no means of sufficient strength to resist a great force, as is evinced by observing what a small stroke in that spot will bring the largest bullock to the ground. This mode must also be attended with considerable inconvenience, if it be not altogether impracticable for the wheel pair of oxen, that have to bear up the prodigious weight of the tongue of the cart.

According to the Spanish method, the yoke is placed on the neck without a bow, and is made fast to the base of the horns by a long leathern strap. The yoke is usually about a foot longer than ours, and owing to its position, length, or some other cause, the oxen walk erect and never hang-off in that awkward and injurious manner that ours too often do. As the yoke is thus kept perfectly stationary it never chafes or galls. Mr. Bland, one of the late commissioners to South America, in his report, thus describes the ox carts which cross the great pampas of Buenos Ayres; "The Tucuman and Mendoza carts, at a little distance looked like thatched cabins slowly moving over the plain—the whole machine is destitute of a nail or a bit of iron; its great coarse wheels are not less than eight feet in diameter; six oxen, in general noble strong animals, move it, the two front pair have a great length of cord by which they draw; and the load of the cart which on an average is not less than four thousand weight, is pretty nearly balanced on the axletree; the body of the cart is either covered with raw hide or thach, made of reeds or straw; and with a collection of brushwood, as fuel, tied on the top, and brought from the westward of the pampas, these carts are seen crossing the plains in caravans of from thirty to forty to-

gether. On the journey the oxen are unyoked occasionally through the day, and night; and permitted to seek their food round about. Thus without any other provision than what is necessary for himself, the carrier pursues his way over a waste of thirty days or six weeks passage. From Buenos Ayres to Mendoza the distance is nine hundred miles; and the journey is performed in about thirty days."

A similar description is given by Laborde, in his statistical view of Spain, of the ox carts and gear of Old and New Castile. And it would seem that a similar method of gearing has long prevailed in some parts of France, from the following note to the sixth chapter of the first book of Rabelais, treating of the inestimable life of the great Gargantua—"Let the four foremost oxen do the work, is a proverbial expression in the province of Poitou, where, not having horses enough to draw their waggons and carts, they usually draw with three couple of oxen, if they go far and the way is bad. The four foremost, which are the ablest, follow each other very close, but they are at a considerable distance from the two thillers, that when the cart or wain is set fast in a slough, these four, which are made fast to it, may draw out of the mire the two others, together with the wagon or cart."

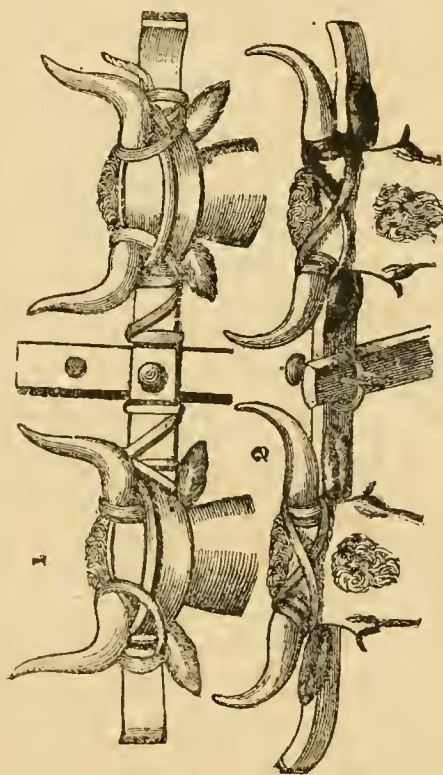
The oxen throughout the provinces of Buenos Ayres and Chili, and it is believed in all Spanish America, are yoked in this Spanish method; and I have been assured by a careful observer, that the oxen not only move and support their labour with greater apparent ease; but, that among the hundreds that reach the city of Buenos Ayres after more than a month's constant travelling from the interior, there is no such thing to be seen among them as a galled or sore neck. The load of Buenos Ayres carts, as stated by Mr. Bland, is poised upon the axletree, so as to throw very little weight forward upon the neck of the oxen; and to prevent even that little from being needlessly oppressive to the animal, and also to prevent the cart from canting up and sliding the load out behind, there is tied to the end of the tongue, and also to the hinder part of the body, small sticks of wood which serve as props when the team stops, to keep the cart balanced in a horizontal position.

The arguments in favour of the Spanish method of yoking are great, and seems to be unanswerable, where the oxen are to be geared to a cart, or the draft is nearly level with rather above the body of the animal. But when geared for the plough, in this manner, there are some matters which must be attended to. The Spanish plough is so rude a machine as not to be worth describing, farther than to show how it has developed an apparent inconvenience in this method of yoking. Instead of a chain or trace fastened from the yoke to the nose of the plough-beam, the beam itself is made barely of sufficient length to pass between the oxen, and fasten to the yoke; the consequence of which is, that the line of draft being almost immediately from the heels of the animal to the

root of his horns, the horns are raised up perpendicularly and his nose is elevated in an unnatural attitude, instead of being bridled back and depressed into the position of great bodily exertion; this however, it is evident, is altogether the effect of the manner of gearing the oxen to this awkward plough, and could not be effected according to our method, where the line of draft would be higher and more in the rear of the animal.

On inspecting the plan of a yoke for working oxen *singly*, which you have given in the fifth No. of your paper, I am satisfied, that if the yoke were placed and fastened on the neck in the Spanish method, without a bow, that oxen would be found thus geared, much better than horses, for the cultivation of our corn fields in summer.

Annexed is a drawing of the Spanish method of yoking, from which the French mode may be easily understood. NANJAMOY.



TO THE EDITOR OF THE AMERICAN FARMER.

SIR,—Observing in your last number among the answers given to a former enquiry, respecting mills to break the grain and cob of corn together for feeding creatures, that some of the writers mention the same machinery will serve admirably to prepare plaster of paris; I beg leave to remind your readers of an observation of Judge Peters in his pamphlet on the use of that article published 20 years ago, that horses whose feed was chopped at a plaster mill, had become diseased and died, as supposed from obstructions occasioned by the mixture of the powdered gypsum with their food. It was not post-

tively pronounced so, if I remembered rightly, but appeared too probable for him to omit the caution, or I not to repeat it again on this occasion.

It may not be amiss to add respecting the corn cob, that when burnt it will be found to yield a product of almost pure pot ash. The use to be made of this is left to others. J. M. Baltimore, December 14, 1819.

FOR THE AMERICAN FARMER.

PROCEEDINGS OF THE AGRICULTURAL SOCIETY OF ALBEMARLE.

Papers communicated for publication by the Corresponding Committee.

No. 2.—Cultivation of Wheat.

READ, OCT. 11th, 1819.

Barbours-Ville, July 26, 1819.

SIR.—Wheat being the staple of the finest portions of the earth, whatever materially concerns its cultivation, is interesting to mankind. Any attempt to communicate information, upon this interesting subject, however abortive it may be, will in regard to the motive for which it originates, be favourably received. A judicious collation of the results of different experiments—results which it behoves every farmer to make public, if attended with any peculiarity, serving if pernicious, as a warning, or if beneficial, inviting to an imitation, will, finally, place within the reach of all, the best system of cultivation. Influenced by these impressions, I take the liberty of communicating to you the results of some experiments I have been making, as also, the reflections to which they have given rise.

The two principal enemies to wheat are the Hessian Fly, and the smut. The discovery of a preventive to their pernicious effects, would be of lasting benefit to the human kind. It has been pursued with an eagerness, in proportion to its importance, but unhappily as yet not with a corresponding success. I have endeavoured to contribute my mite in this laudable undertaking, and herewith present you with the result.

First of the Hessian fly.—It first appeared in this section of the country in 1798. The crops being materially affected, we profited by the suggestions of our northern neighbours, among whom it had been destructive for several preceding years, and postponed seeding from the 20th August to the beginning of October. The result of this was, to expose that which was sown last to the effects of the frost in winter, and the fly in Spring—and hence partial and sometimes indeed a total loss ensued. An awful apprehension began to prevail that the fly was a calamity without remedy. This was at length mitigated, by a rumor that a wheat had been found which was fly proof. Mr. C. Hunton,

of Albemarle, brought some years past, a very small parcel of wheat, which on account of its qualities, he called Columbian, (but which is more generally known as Lawler) from his friends in Fauquier. This wheat he asserted from actual experiment, resisted the fly. Anxious to test its truth, I procured 20lbs. in the autumn of 1815, 2 of which I sowed in my garden, 18 in my corn land, about the middle of October. Both were exempt from the fly, while my other wheat was partially affected. The product of 2lbs. sown in the garden, was 54 1 2 lbs.—that in the corn field 239 lbs., weighing 63 to the bushel. The whole product (being about 5 bushels) was sown on tobacco lands, and in the autumn of 1816—product about 110 bushels. This wheat was near the middle of a field containing about 100 acres. All besides the Lawler wheat, which was uninjured by the fly, was almost utterly destroyed; not producing above 3 bushels to the acre. The crop of 1817 was in a good degree destroyed by the fly. The successful experiments with the fly proof wheat, with the serious loss in the crop of 1817, induced me to purchase 150 bushels of the Lawler; which with my own made 260 bushels. I resolved to commence seeding early in September with the Lawler, and to continue it till the last of September—then sow the ordinary kind, and finish the Lawler, hoping thereby to guard against the effects of the fly as well in the autumn as in the spring.

The crop of 1818 was generally exempt from the fly; the Lawler wheat which was sown early produced a fine crop—the late sowing, a very indifferent one, being somewhat rusted, as well as affected with the smut, in some degree. I resolved to bring to actual experiment its relative capacity with other wheat, to resist the fly; to that end I caused equal quantities of the Lawler and early wheat to be sown on the 27th of August, 1817, in a piece of land cultivated in the Indian pea; under circumstances every way equal. The result was the entire destruction of the early wheat by the fly; while the Lawler wheat was so far exempt from its ravages as to produce a good crop. Emboldened by this experiment, I commenced seeding the last autumn about the first of September. As my tobacco crop was late, and we were at that time finishing its culture, I caused some thirty acres to be sown in the Lawler wheat. The product is superior to any crop I have seen. Although the fly appeared in the wheat, both in the sowing of 1817 and 18, yet it survived the attack without any apparent loss. As yet, therefore, the results of all my experiments justify me in saying that it is substantially able to contend with this formidable enemy to other wheats. Any attempt to account by a satisfactory hypothesis for this quality is entirely apart from my purpose, and therefore will not be made. The staple of this wheat is inferior to none—its relative productiveness (though there be a popular opinion to the contrary)

is unquestionably equal as far as my experiments go—but there are other objections of a serious kind, which lie against it—it is a later wheat than the purple straw or bearded, by a week. It will therefore not abide being sown late—as it exposes it to the rust—it has a strong disposition to the smut—and I fear it is liable to what is called by some the sedge, by others the studs. Of this however, I am far from being satisfied. My suspicion was excited by a few naked spots of a very limited extent, (a few yards square only) for which I could no otherwise very satisfactorily account. On smut in wheat, I will now lay before the society my experiments and their results.

The first case of smut which I discovered was in the spring of 1816 in the early wheat, which induced me to examine my crop more minutely; and it resulted in discovering it in small quantities in every kind I cultivated, viz. the Lawler, the bearded, and the purple straw. In 1817, the disease had greatly increased, and made it necessary that resort should be had to some preventive, if indeed any existed. Profiting by the suggestions of the best tracts within my reach on agriculture, I availed myself (believing it the most effectual remedy) of a change of seed as far as practicable. I applied to a neighbour who adjoins me, and who to this day has never had a head of smutty wheat on his estate, for bearded wheat, which, with that of my own seed, I subjected to the following process; I prepared a vessel containing 20 gallons in the shape of a half hoghead, and filling it two-thirds with water, which I saturated with salt: then pouring the grain gradually in, the imperfect grains with some cockle and grains of smut unbroken, were seen swimming on the surface—these I caused to be taken off with a sieve, so as to save the water—I caused it then to be stirred as long as any thing would rise to the surface. The wheat was then taken out and spread on the barn floor. At the moment I commenced washing my wheat, I caused unslacked lime, in the proportion of a gallon of lime to the bushel of wheat, to be placed also on the barn floor, which was then slacked, and when three or four bushels of wheat had been cleansed, the lime was found to be sufficiently cool to be applied to the wheat: which was then well mixed with a weeding hoe. I then superadded a peck of plaster to each bushel, and proceeded immediately to sowing it. The general result has been an exemption from the smut, except in very small quantities, whenever I have pursued this course; as well in wheat growing from my own seed, as from that procured from my neighbour. The last autumn I made a great variety of experiments for the purpose of ascertaining which of the means resorted to was the most effectual antidote: and with the further view of ascertaining some of the characteristics of this disease.

1st. I sowed one-seventh of an acre in Lawler wheat on the 13th September, as far as I

could perceive, entirely exempt from the smut, except five grains, which I rubbed in smut. The whole, save the product of the five grains, was exempt from the smut. The product of the five grains full of smut. 2. On the 17th of October, I sowed some of the same kind of wheat without smut—product save a head or two, free from the smut. 3d. I sowed the same wheat covered with smut—product excessively smutty. 4th. I sowed the same wheat with smut, salt, lime, and plaster—product smutty.* 5th. I sowed the same wheat with smut and plaster—product smutty. 6th. I sowed the same wheat with smut and salt—product smutty. 7th. I sowed the same wheat with smut and lime—product exempt from the smut, with the exception of one head, or at most two.

In addition to this is a fallow of 120 acres, the whole except an acre or about that quantity, was salted, limed and plastered, as detailed above: the whole substantially exempt (except the acre) from the smut, while that showed a proportion of one-tenth of smutted wheat. The conclusion I deduce from these facts is, that although the quick lime is not a sovereign remedy, yet it approaches it. That the salt has no such effect; but is nevertheless useful in cleansing the seed wheat. Therefore I am warranted in recommending the process I have pursued as well worthy of imitation.

I think it material to state, that I apprehend from my observations that this process is, in unpropitious weather at the time of seeding, rather unfriendly to its vegetation if sown shallow. Instead of harrowing, I would recommend ploughing it in, unless the weather be favourable.

These hints which I respectfully offer to the society, if attended with no other advantages, may attract the attention of some of the more intelligent members to the interesting subject upon which they are offered, and thereby eventually produce beneficial discoveries.

Accept assurances of my respect,
JAS. BARBOUR.

PETER MINOR, ESQ.
Secretary of the Agricultural
Society of Albemarle.

* This experiment was accidental. Two experiments intended to be separate and distinct were confounded. The salted wheat was not limed, and vice versa.

Baltimore, December 13th, 1819.

MR. SKINNER,

SIR—I was considerably interested, in reading, in your last number of the American Farmer, the address of Mr. Law, President of the Agricultural Society of Prince George's County. He has brought together a variety of useful remarks, which, while they show him to be a man of observation and thinking, will tend to excite in others the important habit of using their senses, for the purpose of furnishing their minds with

dea He has directed attention to the propriety of mercantile calculation in farming, and to the useful practices of deep ploughing, irrigation, tree-planting, drill husbandry, and among other things to the dairy. On the last subject he makes some observations, that are no doubt novel to many of his readers, and that, in my opinion deserve little comment. I advert here to his recommending pewter or tin pans, as preferable to earthen or stone ware. He says they will produce more cream from the same quantity of milk. This he infers from these two principles; 1st, that galvanism favours the accumulation of cream; 2dly, that pewter vessels are better galvanic exciters than earthen or stone ware.

The first proposition seems to be a deduction from the well known fact that electricity will coagulate milk. Every dairy woman expects to see an unusual portion of her milk turned into clabber during a thunder gust but this is often effected without the milk's turning sour; and it is also a fact, that cream under the common pressure of the atmosphere, never rises so completely as after the coagulation process commences. If coagulation can be preternaturally hastened, either by galvanism, the use of rennet, or by astringents, the further accumulation of cream ceases. If however, a galvanic action be slowly excited and kept up, between the milk and the vessel containing it, there is no doubt that it will accelerate that process by which the saccharine matter is changed into an acetous condition; and by this means favour the gathering of the cream. So far then as we regard the greater efficiency of galvanic action, the change from earthen or stone-ware to pewter or tin pans, might be proper. But there are consequences resulting from the properties of those metals that make this change by no means advisable. Both pewter and tin can be acted on by the lactic acid, so as to render the milk very disagreeable to the taste. And the oxidation or rusting of the lead contained in the pewter, will diffuse a deleterious poison through the milk. The tin contained in the pewter on tinned ware, though not so easily rusted as lead, or so noxious in its effects on the human system, yet gives the milk so bad a taste, that this should condemn its use, without referring to the injurious properties it possesses.

It may perhaps be remarked in opposition to these statements, that these poisons are diluted, and taken in such small quantities at a time, that they cannot prove pernicious to health. This observation, specious it may be, is not correct; for the most judicious physicians and chemists have long been proscribing earthen ware, glazed with any of the preparations of lead from a place long culinary or dairy utensils; and that account of evils arising from the lead even in this partially vitrified state. They have frequently advised the use of stone ware as an innocent substitute for the other, because

it is glazed with salt, and does not yield to the action of the lactic acid. I will at present conclude by merely observing, that if lead when nearly vitrified, is capable of exciting such just alarm, how much more deleterious must be its effects when exposed in its natural or metallic state to the influence of oxidizing liquids!

FRANKLIN.

No. 2.—Proceedings of the Agricultural Society in Prince George's County, Maryland—at their October Session, 1819.

OCTOBER 18, 1819.

SIR—The great injury sustained from the excessive drought of the summer, by vegetables of almost every description, has prevented, I presume, any successful experiment since the last meeting of this society in the growth of plants. Immersed as I have been like my neighbours generally, in the culture of tobacco, and not willing to augment the physical force of my farm, I thought it expedient to attempt some labour saving principle, in the culture of Indian Corn, (an article so important and necessary on a tobacco plantation as to be deemed indispensable) with this view I flushed my field intended for corn in the fall or winter, with three horse ploughs six or eight inches deep, a practice for some time adopted with great advantage, in the spring it was cross ploughed with the same ploughs and harrowed with a large heavy harrow, containing 25 straight teeth. I mention their shape because I think the straight teeth have several advantages over curved ones, they are not so apt to clog or choke, and are more easily cleaned when they do. After this it was checked for the purpose of planting from 4 1 2 to 5 feet each way, the corn was dropped by a skilful hand, and covered by withdrawing the middle tooth, from a scuffle, an implement composed of the three teeth of an angle plough placed in a circular, instead of a diagonal beam, to the tail of which is placed a small harrow with three feet to level the ridge made by the covering harrow, drawn by one horse. Thus I performed in three days with two hands. (the dropper and the driver) work that would have required the labour of ten hands five days; after the corn came up it was cultivated in the usual way, by one or two good ploughings with a bare share, and afterwards entirely with the angle plough, an instrument that I believe cannot be surpassed for the cultivation of corn in land clear of stones and stumps; land thus prepared by early tillage requires not the aid of a hoe, another great saving in the labour of the cultivation: the product of the field thus managed is superior to any I have seen this season in a similar soil.

I am your obedient servant,
WILLIAM HEBB.

This communication is hastily sketched in consequence of your request of yesterday.

FROM THE ALBANY ARGUS.

TREATISE ON AGRICULTURE.

SECTION IX.

Of the plants recommended for a course of crops (in the preceding section) and their culture.

These are wheat, rye, barley, Indian corn, oats, buckwheat, peas, beans, turnips, potatoes, cabbages, clover and chickory; but we shall take them in the order in which they stand in the proposed rotation of crops; and,

1. Of the potatoe.

This plant is a native of America, and like other valuable things, has had violent enemies and zealous friends. When first introduced into France it was subjected to the imperfect methods of analysis of that day, and being supposed to yield some deleterious matter, was even proscribed by the government; but time, which rarely fails to do justice to the injured, has re-established it there, and with the increased reputation of being the "manna of the poor," (1) of standing as an article of food, next to bread, (2) and far before cabbage, carrots or turnips; (3) and of yielding, by the acre, a crop of greater profit and more nutritive matter than either wheat or barley. (4) Nor is this its whole praise; for besides its value as a food, it is of all vegetables that which, from the number, shape and size of its roots, forms the best preparation for subsequent crops. (5) Of this valuable plant botanists count more than sixty varieties and twelve species, which, for agricultural purposes, may however, be reduced to three; the red, the white, and that called by the French the *quarantaine*, or forty days potatoe. The last is the least prolific; but may notwithstanding, deserve the preference with cultivators near great cities; because, besides being the first in the market, they may be made to give a second crop. The other two are supposed to affect different kinds of soil; the red preferring clay; and the white sand or loam. Of the former, there is a variety, more productive than any other of either species, and which is known (and we think degraded) by the name of the *hog potatoe*. Of this variety, without any peculiar care, we have raised 108 bushels on one quarter of an acre.

Two ways are employed to propagate the potatoe; 1st, by sowing the seed; and 2d, by planting the root. By the former method we obtain new varieties, or revive old ones; but as it requires three years to bring these to maturity, it follows, that the other method, which continues the species you plant, and in the perfection in which you plant them, is alone resorted to for a crop. The product is small or great, or enormous, according to the fertility of the soil and the labour bestowed upon its cultivation. We have never seen a larger product from the acre, than 400 bushels; but there are records of high authority, which give much larger crops, and from which, in justice to our subject, we offer the following extracts:

"At Attingham, in England, a sandy soil gave 700 bushels per acre. At Kirkstatham a similar soil gave 580 bushels; and a black rich loam, 1166 bushels." (6)

(1) Dictionnaire de L'Industrie. Art. Pomme de terre.

(2) Experiments of Vauquelin and Percy, 80 parts out of 100 of bread are nutritive, of the potatoe 25, or nearly 1-4.

(3) "6 killogrammes de pommes de terre equivalent 50 killogrammes de navet" Yvart.

(4) 200 bushels a medium crop per acre of potatoes, are, at 3s. per bushel, equal to 75 dollars; and a medium crop of wheat, 15 bushels per acre, at even 16s. per bushel is but 30 dollars; difference per acre, 11, 3s.

(5) Parmentier of the French Institute.

(6) See vol. 13, p. 114, of the British Annual Register. Some persons have imagined that by cutting the flowers of the potatoe, the crop may be increased, and analogy forms the opinion. The procreative powers of the plant are thus diverted from the apple and concentrated in the bulb.

We need hardly remark that such immense products were procured only by the most careful and well timed cultivation; which we shall now proceed to indicate, under three different heads, 1st, the preparation of the soil; 2d, the choice of plants and mode of planting; and lastly, the treatment of the growing crop.

1st. Of the preparation of the soil.

Give your field intended for potatoes a good fall ploughing, and in ridges, if the soil be clay. Leave it rough and open to the influence of the frost, during the winter; and as early in the spring as you discover in it the mark of vegetation, harrow and roll it. When the weeds show themselves a second time, carry out your manure, cover the fields with it and plough it under. If the quantity of manure be insufficient to cover the whole surface, apply it to the furrows only, and if, as may happen, it be even insufficient for this purpose, then furrow both ways, manure the angles of intersection, and set your potatoes in them.

2d. Of the choice of plants and mode of planting.

Some economists begin by paring the potatoe and planting only the skins; others, less saving, cut the potatoe into slices, leaving a single eye to each slice; and a third class, almost as provident as the other two, are careful to pick out the dwarfs, and reasonable enough to expect from them a progeny of giants. These practices cannot be too much censured, or too soon abandoned, because directly opposed both by reason and experience. In other cases we take great pains, and sometimes incur great expense, to obtain the best seed. In the cultivation of wheat we reject all small, premature, worm eaten, or otherwise imperfect grains; in preparing for a crop of Indian corn, we select the best ears, and even strip from these the small or ill-shaped grains at the ends of the cob; so also in planting beets, carrots, parsnips and turnips, the largest and finest are selected for seed. The reason of all this is obvious:—Plants, like animals, are rendered most perfect by selecting the finest individuals of the species from which to breed. Away then with such miserable economy, and instead of planting skins, or slices, or dwarfs, take for seed the best and largest potatoes; (those having in themselves the most aliment for the young plants) [7] place them in your furrows ten or twelve inches apart, and cover them carefully with earth.

3d. Of the treatment of the growing crop.

As soon as the potatoes begin to show themselves, weeds will also appear; a good harrowing will then save much future labour, and the injury it does the potatoe will be little or none. In a short time another weeding will become necessary; but your crop having now obtained some inches in height, you can no longer safely use the common harrow; but instead of this, the small one of triangular form, so made as to accommodate itself to the width of the intervals. This labour may be occasionally repeated, if necessary, until the potatoes begin to flower, when the *horse hoe* must be substituted for the harrow. The effects of this instrument (the horse hoe) are to extirpate the weeds, to divide and loosen the soil, and to throw over the potatoes an additional covering of earth.

The harvesting and preserving of potatoe crops are processes well known in this country. With regard to the latter, however, we would suggest, whether stacking potatoes on the surface of the soil and with a narrow base is not a better mode than burying them in the ground. Fifteen bushels will be enough for one stack, which must be well covered with straw and earth, and trenched around its whole circumference to carry off dissolving snows and rain water.

II. Of Rye.

This grain, though of the same family with wheat, is less valuable. A bushel of rye weighs less, and gives less flour, and of worse quality, than a bushel of wheat. In comparison, therefore, with wheat, it fails; still there are circumstances, which, as an object of culture, may give it the preference; 1st, it grows well in soils where wheat cannot be raised, 2d,

it bears a much great degree of cold than wheat; 3d, it goes through all the phases of vegetation in a shorter period, and of course exhausts the soil less; [8] 4th, if sown early in the fall, it gives a great deal of pasture, without much eventual injury to the crop; and 5th, its produce, from an equal surface, is one sixth greater than that of wheat. These circumstances render it peculiarly precious to poor soils and poor people, to mountains of great elevation and to high northern latitudes. [9]

Its use, as a food for horses, is known as well in this country as in Europe. The grain chopped and the straw cut and mixed, forms the principal horse food in Pennsylvania; and in Germany the postillions are often found slicing a black and hard rye bread called *houjournikke*, for the post and other horses; and the same practice prevails in Belgium and Holland.

Its conversion into whiskey is a use less approved by reason and patriotism; but if a spirituous liquor must be drank we have no scruple of preferring the form of whiskey, [of our own making] as that which, on the whole, is least injurious to the human body and most beneficial for the body politic.

The species of this grain cultivated here, are two; the *black* and the *white*; for spring rye, [often mistaken for a species] is but a *variety*, produced by time and culture, and restored again to its former character and habits by a similar process. [10]

According to the course of crops detailed in our last section, potatoes, in a sandy soil, precede rye. The ploughing, harrowing and manuring given to that crop will therefore make part of the preparation necessary for *this*. After harvesting the potatoes, cross plough the ground and sow and harrow in the rye, taking care, as in all other cases, that the seed be carefully selected and thoroughly washed in lime water, as the means best calculated to prevent the *ergot*, a disease, to which it is most liable, and which is supposed to be an effect of too great humidity. [11]

Rye is not exempt from the attacks of insects; but suffers less from them than either wheat or barley. Whenever the straw of winter rye becomes yellow, shining and flinty, and circulates no more juices, nature makes the signal for harvest, and no time should be lost in obeying it. "*Cut two days too soon, rather than one day too late*," was among the precepts of Cato; which, if adopted here, would save much grain—terminate the harvest about the 10th of July, and give abundant time to turn down the stubble, and sow the crop next in succession.

III. Turnips.

These are said to be natives of the sea coast of the north of Europe, where they are found growing spontaneously. There are of them eight species, and many varieties; but as they have the same character and uses, and require nearly the same treatment, we shall only speak of the *white* turnip and the *yellow*.

Two methods of cultivation have been pursued, according to the plan, either of turning them down as manure, or of consuming them on the field, or in the stable, by sheep or cattle. In the first case, the harrow is used instead of the plough; and even upon light porous soil, is a pretty good substitute. The seed is sown after the harrow, and, but too frequently, left to its own protection. In the other case, the plough is first used, and after it the harrow; a method much to be preferred, as the difference of crops will more than pay the difference of labour, the only advantage claimed by those who advocate and adopt the first method.

Our own practice is to plough in the stubble, har-

[6] We have seen a field bear rye several years in succession without manure, and the last crop was much the best. This fact is one of those which tend to discredit theory.

[9] Without rye a great part of Russia would be uninhabitable. What we have seen of Archangel or Russian rye is a miserable specimen—black and light.

[10] Spring rye, sown in the fall, will give a tolerable crop; winter rye sown in the spring, a very bad one; which shows, that the nature of the plant requires a *slow*, rather than a *quick* vegetation.

[11] See Tessier on the diseases of plants.

row the ground lightly and sow the turnip seed, in the quantity of two pounds to the acre. This allows something for insects and something for waste. When the plants are generally above ground, give them a light covering of a net, which, by quickening the growth of the plants and leaching on their leaves at the same time, better protects them against the fly than any other means practicable on a large scale, with which we are acquainted. [12] When the plants attain the height of four inches, we set the horse hoe to work; running a furrow the whole length, or breadth, of the field, and returning with another, at the distance of three feet from the former, and so continuing the work, till the whole is laid off into beds of that width. What we lose by this method is only the seed buried by the horse hoe; what we gain, is the manure created by the young plants, ploughed in between the beds, and the advantage of being able to weed and work those left standing for the crop. This part of the labour, which immediately follows the horse hoeing, is expeditiously performed by two men, travelling in the furrows, one on each side of a bed, and employing themselves in thinning and hand hoeing the surplus plants. These operations, of ploughing and weeding, may be performed a second, and even a third time, with advantage.

If we determine to plough in the crop as manure, we should do it while the ground retains a temperature favourable to the decomposition of plants, and before the frost has diminished their volume, or altered their juices. If, the other hand, we decide on feeding off the crop on the ground, it is but necessary to turn in your sheep upon it, under such restrictions as will limit their range, and prevent waste; and, indeed, that nothing should be lost, hogs should be made to follow the sheep. If, however, feeding in the stables be thought more advisable, (and it certainly better economises both food and manure) the turnips should be drawn, topped and stacked; interposing between each layer of them, one of coarse hay or other barn rubbish, and capping the whole with a few bundles of clean long straw. Though less nutritive than either potatoes, carrots or cabbages, the turnip is found to be particularly useful to stall feed cattle, correcting, by its aqueous qualities, the heating effects of corn, oats or rye meal.

Our acquaintance with the yellow turnip (or ruta бага) is but beginning. Mr. Cobbett's experiments have however, been very successful, and tend much to recommend the plant, in preference to the white or common species. That, of the two, it is the more compact, the heavier, the more nutritious, the less apt to become stringy and the more easily preserved, are facts not to be contested. In both France and England, it is rising in reputation, and perhaps wants only time to get into general use here. To this article we will but add an extract from the work of M. D'Edelcrantz, (of Sweden) on the ruta бага.

"Its root is milder and more saccharine than that of the other species, particularly when boiled. Its flesh is harder and more consistent, which better enables it to withstand frosts, and to keep from one year to another. Its leaves extend horizontally, and may be stripped off from time to time, as wanted for forage, without injuring the product of the root; which, in good soil, gives on the acre of Sweden, 350 quintals, and in even poor soil, a good crop. We sow half a pound of seed, about the beginning or middle of May, which will give plants enough to fill an acre. Transplanting is performed about the last of June or first of July. To set out and water 5 or 600 feet in a day, is a task of one man, or of two women. One or two hoeings augment the product much. The harvest is made about the first of November, and the turnips are covered in ditches, or in dry caves or cellars, for winter use."

[12] On a small scale, water, in which potatoes have been boiled, is believed to be very useful in protecting cabbage, turnips and other plants, from the attacks of the fly. We are in a course of experiments, which will determine how far this remedy may be relied upon.

[7] The interior of the potatoe forms the *fecula* which subsists in the young plants.

FROM THE NATIONAL INTELLIGENCER.

On the Grape Vine, with its Wines, Brandies, Salt, and Dried Fruits.

No. V.

The whole of the peninsula of European Spain and Portugal freely produces the vine, and makes abundance of wines, brandies, and the dried raisin. Those kingdoms, extending from 36 degrees north latitude nearly to 44, and giving us the Xeres or Sherry, Chazetta; St. Lucar, Benecarlo, Malaga, or dry and sweet mountain and Catalonia wines, from Spain; and the Lisbon, Carcavela, and Port wines, from Portugal, demand our careful examination. Our continent, from 35 27, when cleared and drained, will doubtless give us all these wines.

The following copy of an original letter, from an interesting and intelligent young American traveller, will present us with an interesting opening of the subject of Spanish wines. It is not the worse for being more than fifteen years old, as authorities should exhibit various times and places, in an inquiry which presents in the form of an induction of particulars. The writer mentions those vine countries of Europe in which the North American *Cohauila* probably obtained its vines, grapes, vine dressers, distillers of brandy, and the dryers of its raisins.

Cadiz, March 24th, 1804.

Knowing that any information respecting the culture of the vine will be acceptable to you, I find satisfaction in communicating what little I have been able to collect here.

In the vineyards of this country are cultivated several sorts of grapes, such as are called *Palomino*, *Peziminez*, *Perruno*, *Canevaro*, *Bejerejo*, *Mantero*, *Abate*, *Alicante*, *Moscato*, *merudo*, *Moscato*, *gordo*, &c. several other kinds, which it is not necessary to particularize. The culture of them all is the same, as follows:—During the summer months, the vine on which you intend to plant the vines is dug, some three-quarters, by others one yard, and by a five-quarters. In the month of January the plants are put in the ground in two ways, either by making a hole with an iron bar, or, with a spade, or any like instrument. When the plant is put into the ground, it must be taken in filling up the hole to tread the soil well about it. The plants that are used are young branches of the foregoing year, which are taken off the old vines at the time of pruning; which leaves space between gathering the grape and the time the vines are likely to shoot. The year after the vine is planted you cut the stalk to a certain height, which is generally done so that only five or six buds remain on the stalk above ground. You thus leave the plant to itself, after these are secured from frosts, and other accidents, which can destroy some of them, and cut all the shoots excepting the highest, and in the time of pruning comes you prune these stalks, leaving each of them only one bud, and then you choose of the two original buds that have been the year before, for your vine to form a head. The highest is the best, you cut off the whole set; or if it is the lowest you prefer, cut off the rest—and by that means leave only one. You every year prune your vine, and for a certain number of years, until you see it has grown strong and healthy, you cut off the new branches, each only one from the stalk; and if any of these branches have come out of the way, so as to be likely to spoil the head of your vine, by having shot lower, or are very weak, cut them off; or if two together, you lop off the best that the other may gain more strength. When your vine is eight or ten years old, and the head is stout and strong, every year, when pruning, leave one of the best shoots of the foregoing year, about four or five buds; as the vigour and abundance of these mature stalks are better able to

small.
large.

nourish these members than those of a less ripened age. The same sort of vine gives a richer or poorer wine, according to the nature of the land in which it is planted. Wheat land is not good for the vine. The best is a white chalky or clay land, such as when it is first dug comes out in large pieces, and has almost the consistence of soft stones. The next is red clay, and the last and worst, is the sandy. After you prune you must dig the vineyard, leaving a large square hole to each vine that it may keep the rain. This is done in Spain, on account of its being more generally dry than wet. But if it lies on a low piece of ground, you then dig it, raising the earth in rows between the vines, parallel to one another that the rain may run off before the vine shoots. Again you dig the ground and leave it even, when the new shoots are strong enough to bear going through the vine ground without tearing them off, you give it another digging, but shallow; and when the grape is near ripening, you give it another very slight digging, (to save labour the plough, harrow, and horse hoe, may be used, where land is abundant.)

When your vine shoots, you take off the bud shoots, as before directed. All young plants must have sticks to them to hinder them from growing crooked. The long branches left on the vine must, after it has grapes, be raised from the ground, and supported with sticks, in order both to be able to dig the ground, and to prevent the grapes from rotting, from the moisture thereof. Vines very often shoot from the very root. These shoots must be carefully taken away, that a young vine should not root too near the surface, which would expose it to be parched up with the solar rays and to have the roots of it cut when dug. Care must be taken every year, when the hole is made about them, to shave off all the young roots it may have. When any of the vines decay, it must be replaced by a branch of the next to it, which is done by leaving this with two branches, digging a trench three quarters of a yard, or a yard deep, from one to another, then burying the two branches, carrying one to the place of the decayed vine and leaving the other in the place of the one buried. These are treated in every respect as young vines. It will never answer to set a new plant amongst old vines, for it cannot thrive. The vines are set in regular rows, similar to our corn fields, at the distance of one yard and three quarters apart.

I will conclude with a few remarks on the process of the juice of the grape.

The best grapes for making wine are *Pelomino*, *Pezdro*, *Ximenes* and *Parruno*; the two first are generally mixed together to be pressed, but they will do separately. The first will then make a very dry wine, and the second a sweet wine, called "*Pahavete*." The *Perruno* is always pressed alone, because it ripens after the others are gathered. (This grape will probably suit the most southern states of North America.) It makes a very dry wine, and of good quality. Many people dislike its culture, on account of its ripening so late, which makes the vintage liable to be spoiled by rains. However if the rain does not fall very abundantly, it rather does good than harm. (May not irrigation suit the vine?) At the time of pressing, some chalk is thrown over the grapes. But this is done more with a view to give them a kind of consistence, than that they may adhere better together when pressed, than from any idea of improving the wine. Yet I am not sure that it does not in some degree tend to give the wine that dryness which is so much admired.

In wine of young vines you put about 1-15th of boiled juice of grape, which has been reduced to one-fourth its primitive quantity, and is quite black, thick, and sweet, (resembling molasses) in order to give it the strength and richness it requires. If you choose, or should perceive in your wines after the vinous fermentation is over and the ebullition has ceased, any weakness, you then apply to them about one thirtieth part of oil-proof brandy. Thus you will give them a body, make them full the sooner, and preserve them from the power of the warm weather.

In addition to all this I must add, that it is absolutely necessary to keep a constant watch over them, and assist them with more brandy if you see that they stand in need thereof.

The mixture of different kinds of grapes, (the sweet, or highly saccharine, with those not sweet,) mentioned in the foregoing letter, is worthy of consideration. The proportions may require experience and judgment. The evaporation of the watery parts of the fresh juice, by the application of the proper degree of heat, before fermentation, is also well worthy of notice. In the course of long and studious inquiries into the causes of the fine full body of the best wine of Xeres, Sherry, famous since the days of Falstaff, this mode of preparing that Spanish Andalusia wine, has been brought into view, from various authorities. There can be no doubt of the fact.

It appears from the statement of the comparative forwardness of the spring, in different parts of the United States, published in 1813, and from a note thereon, respecting Spain, by Doctor Jacob Bigelow, of Harvard University, that the peach tree (*Amgdalus Persica*) blossomed at

Port Claiborne, Alabama, in latitude 31 50, long. 87 55, W. March 4.

Charleston, S. Carolina, do. 32 44, do. 83 39, id. 6 to 12.

Valencia, on the Mediterranean coast of Spain, do. 39 18, do. 0 5 min. id. 19.

Richmond, Virginia, do. 37 10, do. 77 50, id. 23d to April 6.

Lexington, Kentucky, do. 33 06, do. 85 08, April 6 to 16.

Baltimore, Maryland, do. 39 21, do. 77 48, id. 9.

It will be seen that the elevation by the westing and northing of Lexington, in Kentucky, compared with Fort Claiborne, Alabama and Richmond, Va. do not present very serious differences, by the delicate test of the peach tree. But this test of the state of climate in various places, by means of the time of flowering of trees, common to all our latitudes, is not good. The peach grows in Vermont and Maine, and in Canada. It put forth its blossoms in the town of Montreal, latitude 45 35, on the 18th of May. The inferiority of the fruit in Canada, compared with those of our Southern states, though not to be doubted, could not be reduced to a scale of degrees. A better test is to be drawn from the actual flourishing of vegetable productions within certain limits of our country. The sugar cane begins to appear, in a flourishing condition, in our countries on the Gulf of Mexico, and prevails for a number of miles north of the Gulf; but its vital warmth yields to a cooler climate. So the cotton plant is productive on the Gulf, and for a very considerable distance northward, gradually falling off, in the certainty and in the quantity of the crop, till it ceases to deserve any attention in the middle counties of the Chesapeake country. The sweet orange, which grows in the parallels of latitude of New Orleans and St. Augustine, affords the narrowest and strongest demarcation of a climatical line of any of our productions. Since it flourishes at Lisbon, and the vine grows there, and throughout several degrees of latitude in Portugal and Spain, south of Lisbon, there can be no doubt that, with a proper quality and form of soil, the grape vine will give abundant crops in all the country of the United States, including the most southern extent of our open Louisiana claim, or our proposed substitute under the Florida treaty.

Recommencing at this orange line of New Orleans and St. Augustine, and proceeding north on our continent as many degrees (being eleven) as from the parallel of Lisbon to that of the north part of Champagne, in France, where the wines of that country are good and plentiful, we find the vine region of our country beginning at the mouth of the Rio Bravo del Norte, and extending through the parallel of New Orleans, reaches to the end of the 41st degree; supposing our country to be as much cleared of forests, and as well drained in its swamps, marshes, and river bottoms, as Spain, Portugal, and France. In the present state of the country we may deduct two or three of those degrees, and confine ourselves by the imitation of the tried and successful vineyards of *Pevay* and *Harmony* in Indiana.

A Friend to the National Industry.

Philadelphia, Nov. 8, 1819.

OCCASIONAL EXTRACTS,

FROM LETTERS TO THE EDITOR.

Lexington, Va. Nov. 29, 1819.

MR. SKINNER.—I have read with attention and instruction, the very clear and satisfactory information given by Sylvanus and Mr. Hillen, on cider making, in reply to my enquiries on that subject; and it affords me pleasure to avail myself of this opportunity, to acknowledge my obligations to those gentlemen, for their valuable communications; which, I make no doubt, will be duly appreciated by the public as well as by myself. I possess but a very limited stock of agricultural knowledge, and their kindness, together with your polite attention to every interesting inquiry, encourages me to seek for further information through the columns of your very valuable paper; and, that my views may be more distinctly understood, it may be necessary to inform you that my rotation of crops has been precisely the same, as that mentioned by Mr. Lee in the 15th No. of the Farmer, with the exception of the two last years. Having found a large corn crop and the clover harvest to interfere, more than was consistent with the necessary attention to both, I substituted oats *in parts*, as a fallow crop, (for the want of a better.) I never esteemed it very highly, and, in the late dry seasons, I found it to be the only crop that did not compensate me for the labour bestowed on it.

Now, Sir, my object is to be informed whether any, and if any, what fallow crop (corn excepted,) can be introduced in the middle states as a profitable substitute for oats, with a description of the best mode of cultivating it; and of the soil and situation best adapted to its growth? It is of importance that it should come to maturity early in September, that time may be afforded to seed the ground with winter grain, before the time for cutting corn, (which I shall notice hereafter) and how it is to be taken off the ground; if to be cut with the scythe, I would consider it to be more desirable on that account.

I have observed that the Heligoland bean stands high in the estimation of the Agricultural Society of South Carolina, but no instruction is given for its cultivation, nor is it probable that at present a sufficiency of seed could be obtained in this country.

It is obvious that the Ruta Baga is not suited to my purpose: but as it may in other respects be very valuable, I wish to know how far it is deserving of the high encomiums bestowed on it by Mr. Cobbett, and whether or not it would succeed as well on strong *new* land, as on old manured ground? Many of your correspondents have had one year's experience, and could give all the necessary information.

I will now make a few observations on the advantages of cutting up corn, and as my practice differs in some measures from that advocated by gentlemen whose opinions are entitled to great respect, it is with diffidence

that I touch upon the subject. I will, however, offer my sentiments (founded on my own experience) and they may be taken for what they are worth. I am an advocate for it in any way, in preference to the old slovenly habit of seeding among the corn, as nothing short of cutting it up will enable the farmer to seed in a manner that will justify the expectation of a good crop, nor enable him to leave the land smooth and in good order, for clover seed and the scythe; but am induced to believe, that the mode of cutting ought to be adapted to the uses, for which the corn is intended.

It is well known, that the practice of cutting corn with the tops and blades on it originated with the feeders of stock. It is given in that state to their cattle, their sheep and hogs are then brought in succession, to collect what is scattered by the cattle, and would otherwise be lost, and I have no reason to doubt that this practice is well suited to the purposes for which it was introduced.

I made the experiment in this way, about the 20th of September 1814, with a crop that was intended for *other purposes*. It was heavy and inconvenient to handle, a great number of the stalks were blown down in windy weather. They were necessarily taken down to husk the corn, then to set up again. The corn lay all over the field, and it was frequently necessary in the winter to hawl the stalks, when the ground was soft, and the operation injurious to the small grain. These considerations induced me to adopt a different practice, which I have since pursued, and expect to continue. I would not in any case stack the corn in the field; it produces inconvenience in seeding, and in the experiments that I made, the grain on which the stalks stood perished. I would recommend cutting the tops at the usual time, which rarely interferes with any other business; if the season was good for clover I would leave the blades, otherwise I would take them off. In general I commence cutting from the 20th Sept. to the 1st Oct. according to the season, and hawl it immediately to the barn-yard, where it is set up in long ricks, (about 18 inches thick on each side) against forks and poles of a suitable height. Two wagons, one set of horses and six hands, or in that ratio, appears to me to be the best distribution of force; one of the hands to stack, one to unload, and three to cut and assist the wagoner in loading.

Many farmers cut their corn with hoes, which renders it very difficult to collect. The better course is to use knives, made in the form of a butcher's cleaver. They may be made of old straw knives, the blade about ten, and the shank and handle fifteen inches long. Each hand ought to cut two rows, and two hands should throw their corn together; this will bring the product of eight hills into each parcel, in which state it is very easily collected. I freely admit that the other mode has, in one respect, the advantage of mine, in admitting of earlier cutting, as when stacked

in the field with the tops on, it will cure more speedily: but when I used corn exclusively as a fallow crop; my seeding was done in time to produce good crops of wheat. I would, however, prefer something else *in part*, as will appear from some of the preceding inquiries.

That I may not lead others into error, I will observe that my land is a light loam, with a moderate proportion of sand, and the crops come early to maturity. Those who have cold heavy lands would do well to make their experiments on a limited scale.

I have seen in the Richmond Enquirer, (I think in the course of last winter,) an account of a very *early and productive* kind of corn raised either in Vermont or Massachusetts, which was very much sought for. If seed of this kind could be obtained, I would desire no better fallow crop, as the only objection to cutting up would be removed. SIDNEY.

ON RAISING ONION SEED.

MR. SKINNER.—In cultivating onions much depends on the seed. Blaster seed will not vegetate, and the plants from old seed are not as vigorous as from the new.

In the fall, select from your onions the longest and handsomest, and those which are perfectly ripe; let them be put into the cellar and kept from the frost. In the spring select a piece of rich ground, and after it is thoroughly manured, well ploughed and harrowed—dig trenches about three feet from each other, and three inches deep—set your onions in them, about two inches apart, and cover them with earth. They should be hoed frequently and weeded carefully. In order to render them vigorous, and to protect them from storms, they should be hilled nearly as high as the swelled part of the seed stalk, which stalk should not in any way be injured. The seed should be gathered when it begins to shell out and it can be easily ascertained whether it will vegetate by soaking it in water. It should be carefully kept from mice. S. F.

THE FARMER.

BALTIMORE, FRIDAY, DECEMBER 17, 1819.

Many communications are lying over, waiting their turn for insertion; amongst them Agricultural Chemistry, No. 2.

The Editor has been exceedingly mortified at finding that in some instances, bills have been sent to persons who had already paid.—In several cases gentlemen have been kind enough to receive and send on subscription money without particularly designating on whose account. We trust, however, that our subscribers will consider that the paper is yet in its infancy and that the Editor, besides his being wholly inexperienced, has not time to arrange and attend to the details of the establishment; but he can promise that every precaution will be adopted to cure all irregularities as soon as possible.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O Fortunatos nimium sua si bona norint
Agricolae". VIRG.

VOL. I. BALTIMORE, FRIDAY, DECEMBER 24, 1819.

NUM. 39.

AGRICULTURAL.

FROM THE ALBANY ARGUS.

Treatise on Agriculture.

SECTION IV—Continued.

the plants recommended for a course of crops (in the preceding section) and their culture.

IV. Of Barley.

It is probable that bread was first made from this grain. The Jewish scripture speaks only of the barley cakes; the gladiators among the Greeks were called *barley eaters*; and Columella says, that (like our Indian corn and beans in the southern states) barley was a food of the slaves. Among the Romans, it was first employed as a food for man, and afterwards for cattle. (14) The same qualities which recommended it, have since diffused it more generally than any other grain; it is found to be better adapted to different soils and climates; less subject to the attacks of insects, and more easily preserved. In times of scarcity, it is a good substitute for wheat, and at all times yields a beverage, under the names of beer, ale or porter, equally wholesome and invigorating. It is besides, a food, on which cattle do well, and horses thrive at their greatest possible perfection. (15) The species of this grain most in request, are two—*Hordeum Distichum* (two row barley) and *Hordeum leste* (naked barley.) The former is preferred in England, and as we suppose in France, as M. Parmentier ascribes to it all the good qualities of the other species, and much more productiveness. (16) Of the latter species, the nations of the north, who are most in the habit of using barley as the basis of their food and drink, speak highly. (77) But among those who cultivate it only for the last purpose, this species has less credit, and is even considered the worst, from a belief, that after being dried, it malts perfectly or with difficulty.

Though not so nice in relation to soil as either wheat or rye still barley prefers a loose, warm and moist (not wet) soil, and even grows remarkably well in sand, (where we have placed it) in succession to corn, either ploughed in the ground or consumed in the field.

Other things being equal, the spring crops which are first sowed, give the best and largest products. The moment, therefore, that your soil is sufficiently warm, begin ploughing and at a depth not less than six inches; because the roots of barley enter the earth more deeply than those of any of the other cereal grains. If the soil be well pulverised (as it ought to be after turnips) a second ploughing would but be a waste of time and money: (18) proceed therefore, to

(14) This use grows out of the belief of its nutritive and invigorating qualities.

(15) See Buffon on the horse of Arabia. Vol. i. p. 195.

(16) He states it to be double as much.

(17) "Hordeum celeste Norvegis gratissimum quoniam cerevisiam generosam prabet." Mitterpacher. *Ann. rei. rust.* page 312.

(18) The Romans had two maxims on the subject of expense, which it would be wise in us to adopt: those profits are to be preferred, which cost the least; and again, "nothing is less profitable, than a high cultivation." "Nilil minus expedire, quam optimum colere."

sow your barley broad cast, (19) and cover it with a short toothed harrow. The last operation will be to sow and roll in your clover seed, destined to become the next crop in succession.

V. Of Clover.

The Trifolium Agrarium of Linnaeus, is found growing spontaneously in many places, as is sufficiently indicated by the names given to it—of Dutch clover, Spanish clover, clover of Piedmont, clover of Normandy, &c. &c. (20) It is about two centuries since it first became an object of agricultural attention as forage, while its ameliorating effects on the soil (produced by its peculiar system of roots and leaves) was a discovery of modern date. It is now generally sown with barley, or other spring grain of the culmiferous kind, and rarely by itself. The advantages proposed by this practice, are three: 1st, the preparation given to the soil for the grain crop, which is exactly that best fitted for the clover; 2d, the protection given by the barley to the young clover, against the combined effects of heat and dryness; and 3d, the improved condition in which it leaves the soil for subsequent culture. In this practice, however, a less quantity of barley must be sown than usual, because without ventilation, the clover plants will perish. To this condition two others must be added, because indispensable to a good crop; 1st, that your seed be good; and 2d that it be regularly and equally sown. The tests of good seed are, its comparative size and weight, (the largest and heaviest being always the best) its plumpness, its yellow or purple colour, its glossy skin, and lastly its cleanness, or separation from other seeds and from dirt.

The human hand was so doubt, the first machine employed for sowing seeds. The difficulty, however, of scattering them equally over every part of the field, soon attracted notice and engaged mechanics in devising something which should better answer that purpose. China was the first to produce any thing at all commensurate with this object; and it was not till the seventeenth century that this, or some similar invention, was introduced into Europe by Lucattee, a Spaniard, who, meeting no encouragement at home, transmitted his real or pretended discovery to London. Here, as has been conjectured, it served as a model for the sowing machines of M. Tull, and from 1750 to 1770, the mania on this subject was at its height; but from that period to the present, it has been gradually subsiding, and the hand is now completely and generally restored to its original functions.

The quantity of seed to be given to the acre should, in a great degree, depend on the soil; if this be rich, ten or twelve pounds are sufficient; and if poor, double that quantity will not be too much. The practice of mixing the seeds of timothy and rye grass, &c, with that of clover, is a bad one; because these grasses neither rise or ripen at the same time. Another practice, equally bad, is that of sowing clover seed on winter grain, before the earth has acquired a temperature favorable to vegetation, and when there cannot be a doubt but that two thirds of the seed will perish.

By the time your barley, or other covering crop, is harvested, your clover will be sufficiently established

(19) Mr. Young's experiments show, that there is something in the constitution, or habits of this grain to which the drill, or row husbandry, is not accommodated. Even isolated grains, wed and wored, did not do better than the same number in broad cast.

(20) A seed of Holland clover, of the same volume with one of Normandy clover, weighs one seventh more. See Gilbert on Artificial Meadows.

to live alone; and, if not pastured, (21) to brace the ensuing winter, and during the next summer to repay your labor by two abundant crops of hay or grass.

The period in the growth of clover, at which it is most profitably cut and used, presents a question much discussed and variously answered; because depending on extraneous and local circumstances; (such as the state and proximity of markets, &c.) which cannot fail to vary the results, in the hands of different persons, and even of the same person, at different times and at different places. There are, however, some general remarks which belong to the case, and which ought not to be omitted in even this brief view of the subject:

1st. Clover cut before it flowers, abounds in water—has in it but little nutritive matter, and is even apt to produce indigestions in the cattle fed upon it. (22)

2d The stems of clover, cut after seeding, are hard and woody, and no longer hold the leaf; and,

3d. All plants when permitted to seed, exhaust the soil; and to this rule clover is not an exception.

From premises furnished by these facts, we would conclude, that the short period between the flowering and seeding of clover, is that in which its use would be most advantageous, whether regarded as a forage or as an ameliorating crop.

When seed is the principal object of culture, we cannot do better than to adopt the practice in Holland—where the first crop is cut before it flowers, and the second is reserved for seed.

The largeness of the stems, the number of the leaves, and the aqueous quality of both, render it a difficult business to make clover grass into hay; and the difficulty is not a little increased, by the brittleness or disposition of the drying grass to fall into pieces during the process of handling. To meet this case, two supplementary means have been employed; which enable you to house or stack clover in a much greener, or less dry state, than would otherwise be safe. The one is, to scatter over each cart load, while stowing away for keepings two or three quarts of sea salt: the other, to interpose between two layers of clover, one of clean straw. By the first method, the whole mass is made acceptable to cattle; by the second, the quantum of nutritive forage is increased—and by both methods the clover is effectually prevented from heating.

The next step, in our system, is to plough in the clover stubble, as a preparation for the succeeding crop.

VI. Of Wheat.

This grain, so useful to man, (because forming so large a portion of his subsistence) is happily found to adapt itself to a great variety of soils and climates. It grows vigorously in clay, in loam, in calcarious earth and even sand, when aided by manure, or in succession to peas, vetches, clover, &c. To the north it is found in the frozen regions of Siberia; and to the south, under the burning sun of Africa it yields, according to the declaration of Pliny, more than one

(21) If the crowns of young clover roots, be nibbled or otherwise wounded the roots die. Sheep and horses, (both of which bite closely) should therefore be particularly excluded from clover, unless intended for pasturage only.

(22) This effect of clover, which we call *horing*, is prevented in Alsace, by watering the cattle before giving them clover, because a certain quantity of water prevents fermentation.

hundred fold. (23) In ancient Rome, its use, as a food for man, soon superseded that of barley and rye; and in modern Europe, it is even denominated *corn par excellence*.

Of this invaluable grain, there are four species, distinctly marked and generally acknowledged, viz. Many headed wheat, (24) Polish wheat, speltis and common wheat. We shall speak only of the third and fourth species, because with the others, we have little practical acquaintance: and,

1st. *Speltis*. This species and its principal variety [*Triticum Monococcum*] is much cultivated in Germany and Switzerland. Deprived of its husk, the grain is smaller than that of common wheat, but yields a flour of finer quality and better fitted for the purposes of pastry. (25) Two other circumstances recommend it; it withstands the attack of insects, and will grow in poorer soil with less preparatory labor, than the fourth species.

2d. *Common wheat* has many varieties; some of which are bearded, and others bald; some oval and others round or square; some yellow or red, and others white; some soft and others flinty; accidents arising from culture and climate, and not, as we believe, the result of an organization uniformly and essentially different.

With regard to the culture of this plant, we shall confine ourselves, to the following points; the preparation of the soil, the choice and preparation of the seed and the time and different modes of sowing or planting it.

1st. Of the preparation of the soil.

Products of much value to man, can only be obtained by corresponding degrees of labor. The sugar cane, rice and wheat, are more valuable than oats, buckwheat or turnips, and require more labor and expense in their cultivation. Indeed, under the old system of fallows the degree of both, bestowed upon a wheat crop, was enormous. Two years and five or six ploughings, were sometimes given to this preparatory culture; but on the new plan of a rotation of crops, the necessity for this, is in a great degree obviated, and two ploughings of a clover lay are in general amply sufficient. Still, this takes for granted, that these ploughings are well performed; that no clods are to be seen and the field presents an unbroken surface of mellow and finely pulverized earth.

2d. Of the choice and preparation of seed.

Seed should be taken from some fine crop of the preceding year, (26) which shall have ripened thoroughly and been well preserved. This, after passing two or three times thro' the fanning mill, should be carefully washed in clean water, and again in water in which a quantity of fresh lime has been slacked; or, (if lime cannot be had) in which clean and recent wood ashes have been leached. This washing, as we have already suggested, should never be omitted; because, besides detecting the shrunk or shrivelled

(23) "Triticum nihil est fertilius: utpote cum e modio, si sit aptum solum, quale in Byzacio Africae camporum centuri quinquaginti modii reddendur." XVIII L Nat. Hist. Pliny.

(24) This is the *Triticum Compositum* of botanists, called wheat of plenty, miraculous wheat, &c. yielding largely, but, on manufacture, giving much bran and bad flour.

(25) The bread of Franckfort, Nuremberg, &c. so much boasted in Germany, is made from speltis.

(26) A great variety of experiments show, that wheat preserves its germinating faculties, under circumstances apparently very unfavorable, and that it may even be sown to advantage, after several years keeping; after a slight degree of malting in the sheaf or the stack, and after having been subjected to a high degree of artificial heat. We mention this fact, however, not to invite to a selection of seed grains, of either of these descriptions, but to assure the farmer, that where better cannot be had, he may employ such, for that purpose, without apprehending a total loss of his time and labor.

grains, and many seeds of other plants (which will float on the surface of the water) it entirely removes the dust of smut and rust, &c. and thus prevents their propagation. (27) Our next step in this process is to roll the seed in pulverized gypsum.

3d. Of the time of sowing wheat.

On this head there is a diversity both in practice and opinion. Some prefer early, others late sowing; some sow in the fall, others in the wane of the moon, &c.

Theory is certainly on the side of early sowing—because it gives time for the roots of the grain to establish themselves before winter, and experience proves, that grain early sown, throws up more lateral stems, than that which is sown late.

Of lunar influences, we know very little, excepting, that they extend to the waves of the ocean; which has probably first begotten the opinion (held by M. Toaldo and other seavens) that the atmosphere [which is only another and more fluid ocean, and which has much to do with the health and diseases of animals and vegetables] is also subject to these influences. But the calculations of M. de Place prove, that the effect of these on the atmosphere, will not make a difference of one line and a half on the barometer, and are wholly insufficient, to account for those great agitations of the atmosphere, which have been supposed most to affect vegetation.

4th. Of the different modes of sowing wheat.

These are two, the one, executed with the hand; the other, with a sowing machine of which we have already spoken. The latter has been advocated on the ground of economy, employing less seed and distributing what it does employ more equally. Nor will it be denied, that when wheat is very high and labor very cheap, there may be a saving in the use of this machine; but in all other circumstances, the comparison is in favor of the other method, as it requires less time and fewer laborers, and as the waste and irregularity imputed to it, are, in hands practised and steady, reduced to a little or nothing.

A third method of propagating wheat, viz. by transplanting the suckers at regular distances from the seed bed, into another prepared to receive them, has been practised on a small scale and is found to yield abundantly; but it is so embarrassed with expense as to render it entirely unfit for general use.

Of the produce of wheat, very different accounts have been given. To the extraordinary fertility of Byzantium, already mentioned, Pliny adds, that in Leontium, in Sicily, its produce was one hundred for one; yet Cicero, who had been governor of that island, asserts, that the produce of Sicily, was but ten or twelve for one. (28) To conciliate these high and opposite authorities, M. Yvart has supposed, that the product mentioned by Cicero, was an average one of the whole island; and that reported by Pliny, was the result of one or more transplanting experiments; an opinion rendered probable from the fact, that the parent stems and their offspring, had been sent to Rome by the procurator of Augustus. (29)

Some calculators have supposed, and on data not easily refuted, that the maximum produce of this,

(27) Smut, charbon, and rust in grain, were (according to the old philosophy) attributed to storms, or other particular state of the atmosphere; but Mess. Tillet, Tessier, B. Prevot and Decandolle have shown, that the two former of these diseases are produced by an intestinal parasite, of the uredo or mushroom family, the progress of which is much promoted by humidity and shade. Analogy favors the opinion, that rust owes its origin to the same cause. The remedy for all is the same; wash your seed grain thoroughly in lime water, roll it in plaster of paris and sow it in the fall, before the cold and wet weather begins, or in the spring, after it has ended.

(28) Orat. contra Verrem.

(29) Misit ex eo loco, divo Augusto procurator ejus, ex uno grano [vix credibile dictu] cccc. paucis minus germina, Pliny.

grain over the whole face of the globe, and in a series of any ten given years, will not exceed six bushels reaped for one bushel sown. (30)

VII. Of Peas.

The pea is a native of the southern part of Europe, and is found growing spontaneously in the western parts of our own continent. The family is a large one, containing several species; but of these, the field pea alone comes within the scope of our present purpose. Of this, there are two varieties, denominated, from their color; the gray and the green; both productive; and (when separated from the skin that surrounds them) a food of excellent quality for the wholesome nutritive and pleasant; and for cattle, whether in a dry or green state; much to be recommended. Sheep, cows and horses are particularly fond of them; and hogs are more promptly and economically fattened on a mixture of pea and barley meal, in a state of acetous fermentation, than by any other food.

The structure of the roots would indicate, that peas are an exhausting crop; and it is on this evidence, that in Europe they are admitted only in long or six years rotations but if we examine the leaves in regard to both number and form, we will probably find reason to modify this opinion and allow, that by stifling weeds, by checking evaporation, and eventually, by their own fall, they ameliorate the soil and render it more favorable to subsequent crops.

Following turnips, [as in the rotation we are now discussing] the preparatory labor for a pea crop, is not great. One, or at most two ploughings, will be sufficient. Sowing, as a general rule, ought to follow ploughing, without loss of time; and care should be taken that the seed be not laid too deeply. The two methods, row and broad cast sowing, may be in differently pursued. By the former, the seed is economised, the product increased, and the soil better tilled; but not, as some have supposed, with such decided advantage as to outweigh the saving, in time and labor, of the latter.

The length and feebleness of the stems of peas, and the little tendrils they throw out for support, indicate the advantage of mixing with them other plants, more erect growth, which may prevent the peas from falling and lodging. For this purpose, rye, oats and beans have been selected, and with great advantage.

This crop is employed either in a dry or in a green state; between which every farmer will select, according to circumstances. If the market for peas be brisk and high, he will harvest, thresh and sell the grain; if, on the other hand, peas are low and pork high, the moment the pods fill, he will turn in his hogs upon them, and with the following advantages 1st, the hogs feed and fatten themselves, without any additional interposition of his labor; 2d, no particle of their manure is lost; 3d, the debris of the crop refused by the hogs, is given back to the soil; and 4th, the rooting of these animals, which in other cases is an injury, is in this a benefit.

(30) The reader will remember, that on our plan turnips follow wheat, as they do rye, and without any difference in cultivation. See article 3d of this section. To repeat here what we have said there, would be useless.

(To be continued.)

FOR THE AMERICAN FARMER.

PROCEEDINGS OF THE AGRICULTURAL SOCIETY
OF ALBEMARLE.

Papers communicated for publication by the Corresponding Committee.

No. 3.—On Draining.

[Read, Oct. 12, 1818.]

Ridgeway, Sept. 26, 1818.

DEAR Sir—Four years ago I made a small essay in draining after a manner different from any I had ever heard of, or seen practised; the efficacy of which determined me to

peat the experiment this spring upon a larger scale. I am so entirely satisfied with the success in both cases, that I am induced to communicate the mode to you for the information of our society.

It may be remarked, that lands which require to be drained, are always rich, and are thoroughly reclaimed by this process, and are the most productive of any we have. The operation is one too of considerable labour and expense; and where open ditches are relied upon, this labour and expense becomes in a measure annual, from the necessity of cleaning out with the spade and trimming the banks of weeds, bushes, briars, &c.; hence the superior advantages of secret or covered ditches; will be at once perceived, by which not only all this annual labour, but a considerable portion of the best land, occupied by the ditch, the bank, and the turning lands, are saved. The land lost to cultivation by an open ditch, with its banks, and the necessary width for turning a plough on each side of it, is not less than 15 or 20 feet, which in many cases is the extent of surface to be reclaimed. To say nothing of the loss of time incurred by frequent and short turnings of the plough.

These considerations governed me in the experiment I made, the subject of which has been on open ditch, for many years running through a piece of flat land, the distance 100 yards, and conveying the water of a ditch and constant spring from a foot of a hill to a river. The expense of cleaning out with the spade, and trimming the banks, of briars, &c. which before this formed a considerable item on the account of disagreeable and unhealthy labour had been incurred for several years, besides the loss of nearly half an acre of the best land.

I determined to save this expense, and reclaim the land to cultivation by conveying the water subterraneously. For this purpose I dug a new ditch from the river to the head spring, two feet wide and two feet deep, the ends of which are cut down perpendicularly, instead of giving them the usual slope. At the bottom of this ditch, and exactly in the middle of it, I cut a channel 6 inches wide and 6 inches deep, into which all the water immediately collected. A common grubbing hoe was the instrument used in doing this; but I think a more convenient tool, something like a spade, of proper width, could be made in any blacksmith's shop. This channel should be made, however, larger or smaller according to the force of the stream to be conducted, allowing for the increase of water in wet seasons, with a gradual and regular fall. Stones which were at hand were then obtained, with at least a flat surface, and laid side by side across this channel, resting upon its two banks at the bottom of the ditch. The stones for the first course should be so long as to bear at least 4 feet on each bank. If they are rough and do not come well together, other stones may be care fully laid on the top so as to cov-

er the openings, and if convenient, it will be advantageous to fill the whole ditch with stone to a point somewhat below the depth of any ploughing that may be contemplated. The work was begun at the upper end and proceeded downwards, that the channel might be cleared of any obstruction that might fall into it. The whole was then covered thickly with straw and the earth returned. Ramming is unnecessary, as the earth will quickly settle to a proper firmness.

Ploughing and other operations of husbandry have since been carried on over this ditch as if none existed, and the purpose of draining the land has been completely answered. A much frequented road passes over one part of it. It has now stood the test of four years under an annual crop, in which time the whole has been twice overflowed by the water from the river, for 24 hours at a time, and no part of the vent at all injured or obstructed. I consider the work therefore, as done for ever, and the expense I conceive to be greatly less than any other mode of secret draining. I found that the same hands could place the stone and return the earth in less than half the time they spent in cutting the ditch.

In the northern states where the practice of draining with stone is common, the method is, to set up one course of stone perpendicularly against one side of the ditch, and another course leaning against it, forming an angle of about 45 degrees. But this is certainly, not only more tedious, but requires a double portion of stone, and that too of a particular size and shape to make the channel uniform and sufficient. Arator, a distinguished writer on agriculture, and one of the first practical farmers of our state, recommends a deep and wide ditch to be filled with brush covered with straw or leaves, and the earth to be returned and rammed. But not to mention the great labour and expense of this process, it is certain that this work must in time decay; and the mode should only be resorted to where stone can not be procured. In our hilly country stone is generally abundant; in many places so much so, as greatly to impede the operations of the farmer. By converting it to the use I have mentioned, he would find his hills freed from a great nuisance, and his wet lands reclaimed to cultivation by the same operation.

With great respect, yours,
P. MINOR.

Mr. MADISON, President of the }
Agricultural Society, Albemarle. }

ON THE COMPARATIVE UTILITY OF
Oxen AND HORSES,
IN HUSBANDRY.
FROM BATH SOCIETY PAPERS.

No. II.

Bougham, near Bury, Suffolk, Dec. 17, 1781.
GENTLEMEN,

As one of your queries to the High-Sheriffs respected the comparative utility of horses

and oxen in husbandry, I wish to submit the following facts to your consideration:—

About five years ago, I took some land into my occupation, and having found the expense of horses very great, I determined, somewhat more than two years ago, to make trial of oxen, and bought one pair. At that time, I am almost certain there was not an ox worked in this country; on which account my workmen added much to the trouble of breaking them, by their obstinate prejudices against the use of them.

At last I was fortunate enough to select a labourer, who though totally unused to them was willing to take proper pains to break them. By his good treatment and temper they soon became tractable, and as handy both at ploughing and carting as any horses.

Being well satisfied with their performance, I resolved to dispose of my draft horses, and substitute oxen in their stead. I have now completed my plan, and have not a single cart-horse; but the work of my farm, which consists of upwards of one hundred acres of arable land, and sixty of pasture and wood, is performed with ease by six oxen; together with my statute-duty on the highways, timber and corn, carting, harrowing, rolling, and every part of rural business. They are shod constantly: their harness is exactly the same as that of horses, (excepting the necessary alterations for difference of size and shape) they are drove with bridles, and bits in their mouths, and answer to the same words of the ploughman or carter as horses, and readily. A single man holds the plough, and drives a pair of oxen with reins; they will regularly plough an acre of land, every day, and in less than eight hours time: I believe they will do it in seven, but I would not assert more than I know they perform.

I have a small plantation, in which the trees are planted in rows ten feet asunder; the intervals are ploughed by a single ox with a light plough: and he is driven by the man who holds it. I mention this as an instance of their docility.

My oxen go in a cart single, or one, two, or three, or more in proportion to the load. Four oxen will draw eighty bushels of barley, or oats, in a wagon, with ease; and if they are good in kind, will travel as fast as the horses with the same load.

I frequently send out eighty bushels of oats with only three oxen; and forty bushels with one ox, in a light cart, which I think of all others the best method of carriage. My workmen are now perfectly reconciled to the use of oxen, and the following reasons determine me to prefer them greatly to horses:

1st. They are kept at much less expense. Mine never eat corn nor meal of any sort. During the winter, they are kept in good order for work upon straw, with turnips, carrots or cabbages; for want of either of the three latter, I allowed one peck of bran a day to each ox whilst in constant work. When my straw is finished, and the spring advan-

ches, they eat hay; and if they work harder than common in seed time, they have bran beside. When the vetches are fit to mow, I give them in the stable, they have nothing else. After the day's work in the summer, they have a small bundle of hay to eat, and stand in the stable till they are cool, and are then turned into the pasture.

I am of opinion, that the annual difference of expense in keeping a horse and ox, each in condition for the same constant work, is at least four pounds.

2. The value of a horse declines every year after he is seven years old; and is scarcely any thing if he is blind, incurably lame, or very old. But if an ox is in any of those situations, he may be fattened, and sold for much more than the first purchase; and will always fat sooner after work than before.

3. They are not so liable to illness as horses. I have never had one indisposed.

4. Horses (especially those belonging to gentlemen) are frequently rode by servants without their master's knowledge, and often injured by it. Oxen are in no danger of this kind.

5. A general use of oxen would make beef, and consequently all other meat, more plentiful; which I think would be a national benefit.

As it may be thought, that a pair of oxen will plough an acre of land in a day only upon a very light soil; I must add, that the greater part of my arable land is too heavy to grow turnips to advantage. When my lighter lands are in full tilth, I make use of a double plough; a single man holds it, and drives one pair of oxen, and will plough two acres a day.

I am well aware that the method of working oxen with a yoke spares a considerable expense in the article of harness; but they move so much more freely with collars, and can be used with so much more advantage singly by the latter method, that I think it far preferable.

After experience has inclined me to give the preference to oxen, I will not omit in my account the only material inconvenience I have found in working them; which is, they are troublesome in shoeing, at least I have found them so in this country: and, I believe, chiefly because my smith never shoed any before. I have them confined in a pound whilst they are shoed, and a man attends the smith. However, I think this disadvantage amply recompensed by more material advantages; and can with great truth affirm, that the longer I have worked oxen, the better I have been satisfied with them.

With great respect, I am, Gentlemen,
Your most obedient servant,
R. KEDINGTON.

London, Dec. 8th, 1804.

SIR,—You will have the goodness to express to the Bath Society my regret that I cannot attend its anniversary meeting, as was my intention.

On the subject of my claim to the premium for a change of sheep stock, &c. I have only to observe, that it was made at a period the most unfavourable to the stock, when distress for keep of all sorts was greater than I have ever known; and that whether the premium be adjudged or not to me, I shall ever consider the favourable reception it met from the Committee to which it was referred, the able essays which it produced, and the recommendation which this committee, numerously attended, has unanimously given to this general meeting that it should be awarded, together with the proofs since produced, as decisive on this most important question.

The return of my year's labour with oxen was made out for the year 1803, because the year 1804 not being expired, to have made it without the amendment, since resolved on, would have been a palpable error. I now comply with the repeated and earnest wishes of the Society, in presenting this statement for its inspection.

Unprepared as I was, it would have been impossible to have done it with that degree of accuracy which I shall adhere to in any statement of serious import to the public; but the rules which govern the proceedings of the Bath Society allowing me time to examine my own books, and to obtain replies to certain needful questions, I have great pleasure in stating that the following report, now presented to the Society, is in substance, I trust, correct. In that part of the statement which reduces the hauling and carting of manure to be equal to a given number of acres ploughed, I have profited by the kind assistance of Mr. Paul, and Mr. Gordon Grey.

No land ploughed with horses, save part of one acre, as a trial.

Forty-four acres of ley ground broke up	44
Fifty ditto of spring corn, two earths, scarified and dragged, equal to 1 1-2 more each,	170
Sixty do. of turnips, at three earths, cultivated, or scarified and dragged, equal to 1 1-2 earth	271
Twenty-two ditto pease, at one earth, and broad-cast dragged, part of it drilled,	26
Fifty-seven acres of wheat, 32 acres on one earth, once dragged, and twenty-five of heavier land, twice ploughed and twice dragged,	123
Twenty-nine ditto of ley ground, broke up to December 1st.	29
Three ditto of beans, seven ditto winter vetches, two ditto potatoes, cultivating, dragging, &c.	17
Lime carried and "buted"† over the land, 160 butts, equal to two acres work, being a large proportion of 1920 hhds. or 9600 bushels of lime,	Haulings, 120 Butting,* 125

Twenty-five acres of the turnip land dunged, equal to 30 1-2

Total - 955 1-2

Hay-harvest, corn-harvest, corn to market, hauling of timber, &c. &c. not easily calculated, but still to be allowed for, probably amounting to —. Allowing for the three-year-old steers ninety acres, and eight half days' work of two-years-old bulls, worked occasionally with the steers for the purpose of keeping them quiet; allowing also as above, the hay-harvest, &c. not brought to account; it will appear that the labour of the twelve oxen throughout the year, will amount to, if not exceed, one thousand acres.

The average amount of our labour is two acres of ley ground per day, and fallowing and stirring more than two acres; but the second cross ploughing, or earth, somewhat less. Our teams consist of four oxen, a man and a boy, to each double-furrow plough, and to each four wheel wagon. Our ploughing in general very deep, and our fields small, not exceeding 4 1-2 acres each on the average. These two circumstances are to be duly considered as adding materially to the labour. The working stock consists of sixteen steers and oxen, two bulls, and three light horses, viz. six five-years-old oxen, six four-years-old steers, and four three-years-old ditto. They are fresh growing stock, and are regularly turned out to graze after the barley-sowing, at six years old. The whole object aimed at is to carry on our course of crops on the most speedy and vigorous system, but without injury to the growth of the stock.

It is evident that my labour, severe as it long has been, cannot be found to injure the health or the growth of the stock; the exhibition of my oxen annually, within 10 months grazing from the time they are turned out of work, will fully exemplify this important fact. This was in great part my object in establishing the *Barbican* cattle-show; and if I may be allowed to say so, the effect already produced, more especially in countries where oxen were held in disrepute as animals of labour, has exceeded my most sanguine expectations. That our crops are worked in so expeditiously as to amaze those who contend for horse-labour only, can not be denied; in proof of which, fifty-seven acres of wheat were this autumn ploughed, sown, and manured in a complete manner, according to the usage of the country, within three weeks, although the weather was unfavourable, and the land worked close and heavy. The last nine acres were ploughed, sown, dragged, and harrowed in one day. In obedience to the wishes of the Society, I present them with this statement; but I waive all claim to a premium. If, however, in the ordinary course of business, any man in this kingdom shall be found to have done more at a less cost, I shall consider myself as having trespassed unworthily on the notice of this Society. It is fitting to add, that in twenty years

* Butting. The lime being mixed with the fore-heads or headlands round the hedges of the field, is from thence carried in implements called butts, bodily over the land—a laborious but good management.

about I have not lost one ox or steer, or ever broke a yoke or pair, by sickness, death, or accident. And I may further add, that so far from incurring any loss of value from working cattle after their full growth, as is supposed to be the case with horses, amounting to 75 per cent. or more; my own experience, and the concurring opinion of the Committee sent to examine our stock in the month of June last, warrant me in declaring, that working cattle, from three to six years of age, do actually gain at the rate of 20 per cent. yearly; the loss in my own case, in twenty years, being nothing!

The premium now in question, having distinctly waived my claim to it, will probably be awarded to Mr. Billingsley; and it gives me sincere pleasure that it should be bestowed on him. He has been a most strenuous and successful advocate for the labour of oxen, and is well aware of its extreme importance. Mr. Billingsley has accomplished a measure hitherto untried, namely, to set out in ploughing by the acre, and to apply one team of oxen full grown, with two to assist, to all eight oxen, to constant plough labour, every day in the year that it was possible for them to work. I consider the attempt of such consequence to the landed interest, so momentous an illustration of the powers of these superior animals in labour, that I beg to have here to offer him my sincere thanks; and I have the honour to be,

With all respect to the Society, &c. &c.
SOMERVILLE.

To the Secretary.

FROM THE NATIONAL INTELLIGENCER.

On the Grape Vine, with its wines, brandies, salt, and dried fruits.

NO. VI.

In the instructive volume of the Journey of Mr. Arthur Young, p. 315. (Pinkerton's Collection of Travels,) that judicious English farmer gives the following observations: "Upon a general view of the climate of France, and upon comparing it with that of countries not so much favored apparently by nature, I remark, that the principal superiority of it arises from adapting so large a portion of the kingdom to the culture of the vine. Yet this noble plant is most unaccountably decried by abundance of writers, and especially by French ones, though the farmer is enabled to draw as extensive profits from poor and otherwise barren, and even almost perpendicular rocks, as from the richest vales. Hence immense tracts of land may be ranked, in France, among the most valuable, which, in our (the British) climate, would be absolutely waste, or at least applied to no better use than for rabbits or sheep walks. This is the great superiority which climate gives to that kingdom over England." The following notes are from Mr. Young's book:

"Labor in French vineyards, in A. D. 1786, 2l. 10s. 7d. sterling, per English acre, in the Isle of France, and Paris. At Estampes, 2l. 13s. 9d. At Orleans, 1l. 13s. 9d. near it, on the south, it is said to be more.

"Rents, 25, 45, 60, 80, 36, 90, and 50 livres, per acre.

"Price 220 livres; profit 50 livres per acre.

"Labour at Cologne, 12 sous per day and food: 786." In the United States, we reduce human labour, by the plough and harrow, with horses.

Produce, 163 livres per acre.

"*Pellecoy*. Pass vineyards, of which there are many so steep that it is strange how men can stand at their work. One third of the country under vines, which are planted on absolute rocks, but calcareous.

"*Cahors*. Nineteen-twentieths under vines—many more than two hundred years old! The true *vin de Cahors*, which has a great reputation, is the product of a range of rocky vineyards that are upon hills hanging to the south, and is called *Grave wine* (vin de grave or gravier) or the stony (gravelly) soil. Much brandy. This wine is as full bodied as Port. Red and white wine are made of the red grape; white wine of white grape. Ploughing is done among vines in France; not always, nor often.

"*Mize*. Produce per English acre, 8l. sterling, exclusively of labour. Plants at 4 feet, of France, square; being 4 feet 4 inches.

"*Road to Aismes*. Several thousand of acres of vines on a level plain.

"*Paisance*. Vine grounds double in price to wheat grounds. In 44 1-2 degrees of north latitude.

"*Auch*, and to the north. Many vines.

"*Lectour*. Many vines, on stony hills.

"*La Morte Landron*. Vines on hills. Price 50l. sterling per English acre.

"*Langon*. Famous yellow wine. Land 50l. sterling per acre. Produce 15l. sterling per acre.

"*Barsac*. Hills, that hang to the Garonne, north side. An immense range of vines.

"*Castres*. Vines.

"*Bordeaux de Cussac*. Part *pauis*, or bottom land, alluvion, and part high. Lands 61l. 18s. 6d. sterling per acre is a common price; but in some places, 173l. 11s. 3d. and even 191l. 19s. 3d. sterling per acre.

"*Carignac*. They make much brandy: make tartar, or the salt of wine.

"*Angumois Petignac*, to *Roulet*. They make much fine brandy.

"*Angoulesme*. Vines per acre, 10l. sterling. An immense range of vines; much good brandy; brandy one gallon for six of wine, in some places more; varies from 1 to 4, 5, 6, 7, 8, and 9.—*Venteuil*.

"*Porton*, *Chateau-vault* to *les Ormes*. Poor hills with vines, sell equally with their best vale lands, in 46th degree north.

"*Touraine*. Wine and vines.

"*Anboise*. Vines per acre, 43l. 15s. sterling.

"*Blois to Chambord*, on the upper Loire. Almost all the country vines, and many new plantations, on almost a blowing sand. Two thousand acres under the eye at once. Nearly all made into brandy.

"*Petiviera*, *Isle of France*, *Liancourt*, vines. Wines, so far north, bad.

"*Nantes to Ancenis*, vines. Promiscuous and no crops.

"*Ancenis*, on the north side of the river Loire. Great region of vines along the river, though far north. Dung very little, many not once in fifteen years.

"*Parades*. Vineyards, 30l. sterling per acre.

"*Anjou*, St. George. Worst vines 200 livres per acre; best 500—(350 is 14l. 9s. 6d. sterling.) Much wine, not good.

"*Ducatel*. Vines higher than arable.

"*La Roche Guyon*. 61l. 8s. 4d. sterling per acre, for vineyards.

"*Neuf Moutier*. Rich district. Vines on slopes sell, on a medium, at 78l. 13s. 3d. sterling per acre.

"*Champagne*. Two-thirds of the country round Ay, (in 49 degrees N. lat.) Gumier, Piery, Disy, Hautvilliers, &c. under vines; and here all the famous Champagne wines are made. *Arise*, *Aunje*, *Lumenee*, *Cramont*, make the white wine, with white grapes only. At Ay Epervay and Piery, the white wine is made with the black grape only. At Aisy, also, first white wines are made.

"*Angers*, on the Loire. Much wine made of a quality generally not the best. By manuring much is made, but of an inferior quality. Value of vine lands, 47l. 5s. 3d. sterling per acre. Produce, 9l. 14s. 4d. sterling per acre. Women gather the grapes. The utmost care is taken to pick out inferior bunches and decayed grapes.

"As to the culture:—in the middle of January they give the cutting, (*taille*); in March they dig the ground; in April and May they plant the provins, or cut slips of the vine; in June tie and hoe the septs, or growing vines; in August hoe again; in October, or, in good years, in September the vintage takes place.

"The vines are planted promiscuously, three or four feet asunder, or two and a half; are now about eighteen feet or two inches high, and are tied to the props with straw bands. Many plantations are far from being clean; some full of weeds; many hands on the hills. Steeping the black grape, before pressing, makes red wine.

"They press with a wheel—preferring the power of men to that of horses; probably because human labour is cheap, and the price of horses high in France. [The reverse is the case in the United States.]

"Two hundred livres in wine, when sold by the proprietor, pays (in 1786) various public duties of transfer, of five per cent. of augmentation, *guage*, *constage*, &c. of *Octroi* of the town, and king, in all (livres) 25.0

The merchant selling, pays the same, 25.0

Each buyer, who sells it, the same, 25.0

Port duties on export, 15.0

Tavern keepers and retailers pay 30 to 40, say 35.0

"The ecclesiastics take sometimes their tenth strictly; sometimes compound for a less value in money.

"The wine trade of Rheims is worth 800,000 livres per annum, to 1,100,000 livres.

"*Lorraine*, *Verdun*, *Metz*. Vines

"*Braban*. Vines.

"*Pont au Mousson*. Vines. Many new vineyards are planted, and on lands suitable for wheat, (A. D. 1789.) The vineyards steadily increase. The income is said to be 10 per cent. on lands, vines, and farm buildings, though France is so populous and wants land.

"*Nancy Lunerville*. Produce 8l. 12s. sterling, per acre.

Alsace, *Strasbourg*, *Schelesatdt*, *Isheim*. Vines. Produce 10. 7. sterling, to 16l. 12s. 6d. per acre.

"*Franche Comte*, *Besancon*. Vines. Lands in vines worth 123l. 6s. sterling, per acre.

"*Bourgogne Dijon*. (About 47 degrees north lat.) 63l. 19s. 2d. sterling per acre. Produce 13l. 16s. 9d. But the fine vineyards of *Veauunes*, *Romane*, and *Tash*, &c. sell for nearly 135l. sterling, per acre.

"*Clos de Vougeaud*. The most famous vineyard of France. It is walled all round, and has no trees in it. Vines two or three feet high now; stand promiscuously. The soil is a brown loam, inclining to red, with stones in it, which prove on trial calcareous. It is at the foot of a hill, which is rocky. Produce 46l. 1s. 4d. per acre. Price 511l. 17s. 6d. sterling per acre. They make first red wine—also white.

"*Nuys*, *Burgundy*. Vines, 51l. 3s. 9d. per acre.

"*St. George*, *Richebourg*, *Chamberlin*, *Coterate*, and others, above named, are the best vineyards of *Burgundy*, after that of *Clos de Vougeaud* which sold for above 1,100,000 livres, in 1793 or 1794.

"Manure with dung is avoided, in respect to quality; though it increases quantity. The safest manure is good fit earth or soil.

"*Beaume*, *Burgundy*. Vines among calcareous stones, *Valay*, *Aloes*, *Pomer*, *Savigne*, *Mulso*, [white] and *Maureauche*.

"*Chagnie*. Vines and *Couch*.

"*Bourbonnais*, *Molins*, *Riaux* Vines.

"*St. Penorin*. Vineyards on hills.

"*Avergne*, *Riom*, *Clermont*, *Izoire*. Vines

"*Briude*. Vines, on rocks, and rocky declivities. Thirty-five sorts of wine here, better than the red wines of the rich plains.

"*Dauphine*, *Montetmart*. Vines.

"*Provence*, *Avignon*, and *Aix*. Vines. Also at *Tour de Acogues* and *Hyeres*.

"Medium of many costs 61l. 18s. sterling, per acre; but deduct the most costly, the average is 41l. 10s. 6d.

A fair average may be 45l. sterling, [or \$200] per acre, cost; and 9l. 2s. sterling, per acre, gross produce, [being \$40 44]."

Thus ran the observations of Mr. Young, above

thirty years ago, which, though much condensed, afford a variety of useful lights on the subject, which we have undertaken to open to the view of our country. His journey through France* and Piedmont merits our utmost attention for he was engaged in an intelligent and diligent inquiry into the question, whether the profitable culture of the vine could be added to the agricultural pursuits of his native country. He believes that the British climates constitute the only, but an insuperable, impediment. It is believed, that, after similar enquiries in the United States, and after considering the vineyards of Cohauila, and those of the two Harmons, of Vevay, of Glasgow, and the two Carolinas, with the genial regions of the orange, the cane, the rice, the indigo, the fig, and the peach, the judgment of Mr. Young on the subject of the vine would be decidedly in favour of the capacity and prospects of the United States.

A FRIEND TO NATIONAL INDUSTRY.

Philadelphia, Nov. 9, 1819.†

* It was first printed as a substantive work, in two volumes, and has been also inserted in Pinkerton's Collection of Travels.

† See No. 1 to 5, in the National Intelligencer.

FOR THE AMERICAN FARMER.

AGRICULTURAL CHYMISTRY.—No. II.*

There is no branch of chymical science more neglected, and certainly none more generally useful and extensively beneficial to mankind than agricultural chymistry. The laws of chymical affinity are the laws of God, by which all material matter is changed, decomposed, and reformed. The rolling of a thunder storm, and the silent crystallization of a salt, are alike evidences of the implicit obedience of matter to these laws, and daily experience teaches us that they are as unchangeable as the truths of Holy Writ. The rocks and hills praise their Almighty Creator, and have never ceased to act in obedience to his command; the mind of man is alone privileged to obey or disobey. The growth of its body, and the movements of his food for his support, are placed beyond his control, by their obedience to those laws which govern the material substances on the earth.

The present knowledge of these laws has been acquired by observations on the phenomena of nature, and the experiments of science, which have proved the existence of the laws of affinity. Further experiments may yet produce a more perfect knowledge of them, and furnish to man still further evidences of Almighty Wisdom. The idea of finding a pabulum for the growth and support of vegetable life, is as visionary as the idea of the philosopher's stone, or an universal specific, and with them will be proscribed from the pages of science, and the consideration of common sense. Experience has taught us that a mixture of various earths in connection with the action of water, and the presence of the atmosphere, are necessary for healthy vegetable life, and that the rays of the sun bear no inconsiderable share in the formation of a plant, and the ripening of

its fruit. The chief subject of enquiry for the chymist is, what earths, what combinations, and what proportions of them are best calculated for any particular plant or species of plants? With this view I will enumerate the chief earths, acids and metals which compose the general soil, viz:

Earths.

Lime	Carbonic Acid	Iron
Alumine	Sulphuric Acid	
Silex	Nitric Acid	

Lime is the basis of the most fertile earths, but of itself is incapable of supporting vegetable life. Its natural affinity for acids is so great, that it invariably takes from the atmosphere the carbonic acid; by this gradual absorption it becomes changed into calcarious earth, limestone or chalk: in this state it receives the chymical name of carbonate of lime; this substance being slightly soluble in water, a part is taken up in solution at every fall of rain, and conveyed to the fibrous roots of vegetables, which seize on it with avidity and furnish themselves with nourishment, which increases their size and growth, and which has given to soils in which this species of earth is predominant, the character of fertile. Pure lime is not found on the earth, it is only produced by the action of fire, as soon as it is taken from the kiln it acts in obedience to the laws of affinity, by taking up whatever acid it meets with; this natural tendency to neutralize itself, is a provision of nature, for the formation of a soil.

Alumine or clay is the next in importance for the formation of good soil. Clay appears to possess but little chymical action in soils; its properties are rather mechanical, and the extra-power of retaining water, is happily provided by nature to counteract the evaporating power of calcarious earths, which is the first approach towards a good soil.

Silex, or sand, gravel, &c. This third great body of the soil, though not an earth, is usually classed with the earths: Its properties are not only mechanical, but chymical, and necessary towards the formation of some plants, particularly wheat, whose stock receives strength, solidity, and its brilliant surface from Silex. The necessity of a mixture of these earths will be obvious from the following considerations. The calcarious earth alone hardly possesses the power of supporting vegetation, and its evaporating power is so great, that it becomes wet and dry as it were in an instant; it would therefore always require a constant and regular supply of water without intermission, by the addition of Alumine, or clay, the power of retaining water is obtained, and the stiffness and excessive retension of the clay is broken by the drying power of the calcarious earth: there is yet however, an obstacle to the operations of the husbandman, and his labours would be lost, if the materials of his soil were confined to these two articles. This mixture would produce a kind of porous mortar which would defy the action of his implements; kind nature has therefore fur-

nished him with Silex, in the various forms of silecious powder, sand, pebbles, and stones, or where these have not been liberally bestowed, has given an equivalent in magnesian earth, and supplies of water from subterranean streams near the surface as evinced by the limestone springs of the great valley of Conococtieague, and the Shenandoah. The various forms of Silex serve to divide the mass, and give it the pulverulent form, necessary for the admission of air, and the process of vegetation.

A. B. M.

TO THE EDITOR OF THE AMERICAN FARMER.

MR. SKINNER—Before any thing appeared from the pen of Mr. Cobbet on Ruta Baya, I had it in contemplation to abandon the present most approved mode of farming in this state, and pursue one entirely different. I was much dissatisfied with the frequent use of the plough, being convinced that it was a most expensive and pernicious method of farming. It appeared to me, that in our agriculture, clear profit and progressive permanent fertility, should be primary considerations. The best plan that I could devise to accomplish these important objects, was the following—I possessed 150 acres of arable land, which had within a few years, been so far reclaimed from a state of the most abject poverty, as to produce generally a luxuriant growth of clover. This farm was to be divided into 10 lots of 15 acres each, one of these divisions was to be manured from the dung already accumulated, and planted in Tobacco, which was to be succeeded by wheat, leaving 8 lots in clover, 4 of which was to pasture 20 bullocks, 3 good milch cows, two oxen, two horses, to answer the treble purpose of farming—carriage and saddle, and a few good hogs—the other 4 lots were to afford a crop of hay, a crop of clover seed, and then they were to relieve the other divisions by affording pasture—as the heads would only be taken off and the stalks and leaves still left, and a succeeding crop coming on. It was not proposed to gather the heads with the rake, as that will only answer when the clover is very dry, and standing up, and by waiting so long before gathering the seed, I should graze the other lots closer than would be desirable, besides losing the pasture of all the clover that dried—but it was intended to gather the seed with the common grain scythe, and cradle, which can be used as soon as the seed is ascertained to be well filled, and with which a man can gather 5 acres of seed a day, and do it much cleaner than I ever saw the rake do, under any circumstances. The hay and the straw would winter my stock cattle, cows and oxen, and with a little grain, my horses too, and my hogs would be in such condition from the clover and kitchen offal, that they would require but little grain to fatten them. I should then calculate on 15

* For No. 1, see p. 193.

hogsheads of tobacco; 300 bushels of wheat, 60 bushels of clover seed, and 20 fat bullocks, with dung amply sufficient to manure 15 acres,* to be expended on another lot of tobacco. My wheat should be succeeded by clover, timothy and orchard grass, (sown with Bennett's grass seed machine, a most invaluable and indispensable implement of husbandry) and by the time I came round to this pasture, I should expect each acre to pasture and winter a bullock, as was done by Mr. West of Pennsylvania, and after to years, I should show 120 bullocks fattened on my farm; an increased quantity of tobacco, wheat and manure, &c. annually, and the land much fertilized.

When Mr. Cobbett called our attention to Ruta Baga and other roots, I was persuaded they might be profitably substituted for tobacco, as I detested the idea of sending off the farm what could be profitably consumed and converted into manure on it; this, sir, occasioned the queries that appeared in the Farmer, page 173; that, or my rustic manner has been so unhappy, as to wonderfully excite the sensibility of your very modest and courteous "friend," who appears willing to deny the prerogative of plain speaking to all but himself. It was not for me to know or enquire whether you were encroaching upon the privileges of Mr. Cobbett; it was neither the business of myself, nor I presume that of "a friend," you had promised us his process of earth burning, and my intention was to remind you of a pledge not complied with, as I supposed, from multilarious engagements until it had been forgot. You will recollect that when my queries were made, you had published nothing on earth burning.

I would with the utmost deference and humility beg "a friend" to inform me, as he appears so conversant with the subject, where he learned that it "was contrary to the very principles of nature, to feed" a fattening ox on Ruta Baga and any thing else, but grain; until he imparts this information I shall think his assertion as inapplicable as his notice of my queries was unnecessary. The enquiry was not for the most natural food of animals, but for the most profitable use of Ruta Baga, and as grain was to be abandoned for Ruta Baga, it will be obvious, why it was necessary when speaking of orchard grass, to say, and can it be successfully sown in the fall to bring in a crop of clover afterwards in place of oats or barley." As my queries have engaged the attention of "a friend," it might be gratifying to him to know, that I have this year raised upwards of 100 bushels of Ruta Baga, from 1-4 of an acre of ground, and was not imposed on by seedsmen; the largest of which weighed, when trimmed, from 7 to 9lb. and measured from 17 to more than 25 inches in circumference, and I have ascertained from accurate experiments that

* Vide "The error of American Agriculture explained" by F. Moore, a work in the hands of too few practical farmers.

hogs feed on Ruta Baga boiled, will fatten half as fast as if fed on corn, and will eat four times as much in the same time; or to be more perspicuous, a hog that will require 4 bushels of shelled corn, and 6 weeks to render him any given weight will require 32 bushels of *boiled* Ruta Baga, and 12 weeks to attain the same weight.

With grateful acknowledgements to Mr. McCulloch, for his prompt and polite attention to one of my queries, I will cease to trespass on your columns, and I fear your patience.

A SUBSCRIBER.

P. S. From an analysis of Sir Humphrey Davy, it appears that 1 bushel of rye affords as much nutritive matter as 12 1-3 bushels of Ruta Baga; and that 1 bushel of Irish potatoes gives as much nutritive matter as 3 3-4 bushels of Ruta Baga.

OCCASIONAL EXTRACTS.

EXTRACT OF A LETTER TO THE EDITOR, DATED
Bowling Green, Virginia, Dec. 16, 1819.

"Notwithstanding the excessive drought, nature seems, in some instances, to have been unusually kind. Of the many extraordinary productions I have seen noticed, but few surpass a growth of the common turnip, sown by me in July; from about one fourth of an acre, I have sixteen tumbril loads, after having used freely for my family until about the middle of November, and they weighed, generally, from 10 to 15lbs. each. My Ruta Baga seeded about the same time are very large, from 8 to 13lbs. But I have but few of them in consequence, I believe, of defective seed."

MR. SKINNER--The following method of preserving butter, I have tried, and found it to answer my most sanguine expectations. As in 1810 (spring) I put up a small quantity for ship stores, went to the coast of Africa, where I remained between four or five months, and did not get home until the winter following, being absent near ten months; when upon landing the remains of my stores I found one or two small pots of butter, which upon tasting I found as good as the generality of butter offered for sale in our markets--this in my opinion fully tests the Receipt; for the climate of that part of the world is such, that it is next to an impossibility to succeed in curing provisions by any process, or through the agency of salt, no matter what quantity you use.

RECIPE.

For every pound of butter take half an ounce of best common salt, one quarter of an ounce loaf sugar, and quarter of an ounce saltpetre; beat them up together and blend the whole completely.

Butter thus cured requires to stand three weeks or a month before it is used; if sooner opened the salts are not sufficiently blended

with it. The smaller the pots the better for sea voyages; as the frequent admission of sea air will soon turn the butter rancid.

Yours truly,

WM. B. BARNEY.

Baltimore, Dec. 12, 1819.

From the National Intelligencer..

TO THE EDITORS.

Baltimore, 8th of 11th mo. 1819.

RESPECTED FRIENDS--I have observed in your paper of yesterday's post, an article on the subject of "American manufactures of straw," by Simeon Francis, of New Haven, concluding with these words, respecting the *wire grass*, of which the American Leghorn is made--"I have been told that where the grass cannot be found, rye straw, that part next the head, will answer for a good substitute--whether this is a fact I am unable to determine"--and as I happen to have been an eye witness of the fact, I lose no time in saying, I have seen ladies' Leghorn hats made of rye straw, of English growth, in such a degree of perfection, as, by their similarity, completely to lead the London merchants and dealers in the article, to believe them of foreign produce, till informed to the contrary.

Rye adapted to this purpose may be grown on the most barren land; the coarser kind is used for the coarser articles, and the finest is fit for Leghorn hats, which, in this country would sell for 15, 20, or 25 dollars each.

I hope the editors of papers throughout the Union will insert the article of Simeon Francis, from motives of public spirit, for it points out a valuable branch of industry, which is well worthy of national attention. It is adapted to female employment, from its domestic nature. The ladies of Connecticut, who have originated this American manufacture, merit the gratitude of their country; for if their example is properly followed, it will prevent an annual tribute being sent to Italy to procure a manufactured article, which may be procured at home, at a reduced price, equal in quality to the imported article, and in quantity equal to the demand.

When duty allows me, I am rather anxious to avoid appearing before the public, but in such a case as the present, I am willing my signature should be public, if, as determining the fact in question, my authority can be of service, in a cause so amiable in its origin, and benevolent in its nature.

I remain, &c.

JOSEPH LANCASTER.

THE TEETH.

A Dentist in Philadelphia makes the following communication to the public--

I am so often asked the questions why people lose their teeth and the best way to preserve them, that I will again give the best information in my power on this all important subject--information, as laid down by the most eminent writers England has produced, joined with my own experience. Children's first teeth, when decayed, should

be extracted, as they are liable to prevent the formation of the permanent teeth. At about seven years of age, the child's mouth should be frequently examined by a dentist, in order that an obstructing first tooth should be extracted before the permanent tooth is seen coming through the gums, pointing towards the tongue or towards the lip—for when it has once got its direction, it will keep it; but, in many parts, there is no doubt—in that case, when parents perceive a fulness or swelling of the gum inside the mouth, it is a sign the second tooth is coming, and it is then proper to extract the first tooth, to give the second room to come regular; but to go into all particulars would almost fill the paper.

About thirteen years of age is the all-important time to ensure the child good teeth during life; but it is necessary to mention, that where a child's teeth are wide apart, (and some children's are) they want no assistance, they have room to grow, and will take care of themselves.

Children, whose jaws are narrow—mouths small—teeth large—grow one above another—overlap, push each other out of the rank, and press hard against one another—these are the teeth that require so much assistance.

The four eye-teeth, (Cuspides) two in the upper, and two in the lower jaw (some persons call those in the lower jaw stomach-teeth) are exceedingly strong, and form the support of the front of the mouth—and they should be preserved—they have the largest fang of any tooth, and require a great deal of room, and, therefore, it will be right to extract the first double tooth on each side, and where the teeth are crowded, considerable advantage always attends their extraction. If they be extracted before the permanent back teeth appear, in a short time they will not be missed, as no space will be left. The front teeth will derive much benefit from this gain of room, as there will probably be left a small space between them which will tend to their preservation; for, it is observed, when teeth are situated so close as to press hard upon each other, they almost always fall into a state of decay. Sometimes the upper jaw is so narrow, from side to side, the teeth in the front parts are thrown forward, and project very much over the teeth of the lower jaw. If the first Bicospide (small double tooth) be extracted early, the teeth will fall into a regular course.

After this, the teeth require very little assistance, only, when the front ones grow up, separate them—continued pressure on any one bone in the body will break it; and when black specks appear between the teeth they should be immediately removed, before the mortification progresses too far; and keep the teeth clean.

If a tooth gets a hole in it, let it be plugged in time; and decayed teeth should not be allowed to press against sound ones. If people do not like to have them extracted, let them be separated. If the gums leave the teeth, which is very common, take off the tartar with proper instruments. Apply often

soap to the bare parts of the tooth, and press the gums, very frequently, upwards or downwards, hard with the finger, and they will, in most cases, return, the gums being elastic.

The roots of the small double teeth, in each jaw, so much recommended to be extracted, at about thirteen years of age, are very short, small and close together, and these teeth extract with great ease and safety, more particularly at this early age. I will remark, for the satisfaction of those at a distance, that the above information has been twice laid before the inhabitants of Philadelphia, and they have been invited to contradict it, if not valuable and true; but no one has done it.—Wor. Gaz.

FROM THE FAMILY HERBAL.

COMMON WALNUT TREE.

JUGLANS REGIA.

DESCRIPTION.

This is a large beautiful tree. Leaves pinnated, consisting of several pair of opposite pinnæ, with an odd one at the end. Flowers in April and May, and the fruit is ripe in September.

HISTORY.

This tree is a native of Persia, but bears our climate wonderfully well, and produces abundance of a very excellent fruit, much eaten after dinner. The wood is very durable, and bears a fine polish, and surpasses in beauty mahogany or any other wood. It is the only wood proper for gun stocks, as it is very hard, and does not split.

MEDICAL VIRTUE.

The different parts of the walnuts have different properties, and they differ according as they are more or less ripe. The outer covering or husk, and the shell and peel of the kernel, are esteemed to be sudorific, especially if used before the walnuts are quite ripe; and they have been boiled along with sarsaparilla and guaiacum wood, in the preparation of decoctions used for removing venereal and rheumatic complaints, and for expelling worms; and it may be remarked, that no insect eats the beautiful leaves of this tree, nor is the earth-worm found near it. An infusion of the shells thrown out destroys the worm on which it falls. This liquor destroys even the tape-worm. The leaves have the same property. A brown dye is made of the walnut liquor, and gipsies dye themselves with it, which proves very lasting. An oil is extracted from the nut, said also to destroy even the tape-worm, and it is better than olive oil, and, never freezing, is used by painters. In France they burn it in their lamps.

HOW TO PICKLE WALNUTS.

Scald slightly, and rub off the first skin of a hundred of large walnuts, before they have a hard shell: this may easily be ascertained by trying them with a pin. Put them in a strong cold brine, put new brine the third and sixth days, and take them out and dry them on the ninth. Take an ounce each of long pepper, black pepper, ginger, and all-spice; a quarter of an ounce of cloves, some blades of mace, and a table spoonful of mustard-seeds: bruise the whole together, put into a jar a layer of walnuts, strew them well over with the mixture, and proceed in the same man-

ner till all are covered. Then boil three quarts of white wine vinegar, with sliced horse-radish and ginger, pour it hot over the walnuts, and cover close. Repeat the boiling of the vinegar, and pour it hot over, three or four days, always keeping the pickle closely covered; add at the last boiling a few cloves of garlic, or shalots. In five months they will be fit for use.

How to make Spruce Wine.

For this, which is only a superior sort of white spruce beer, proceed as follows: to every gallon of water take a pound and a half of honey, and half a pound of fine starch. The starch, however, previously to its being blended with the honey, liquor, or syrup, must be reduced to a transparent jelly, by boiling it with the water purposely preserved; a quarter of a pound of essence of spruce may be used to five gallons of water—and the same method may be pursued in working, fining, and bottling, as directed above for the white spruce beer.

Spruce is a wholesome and pleasant drink to those who are used to it, and persons soon become habituated; it contains a vast quantity of fixed air, which is extremely bracing, and the use of this liquor is particularly to be recommended to such as are troubled with scorbutic humours, or have the gravel. It is chiefly sued in the summer months.

FROM NILES' WEEKLY REGISTER.

Beautiful Ink.—Many gentlemen who receive the Register, have asked where we obtained the ink with which it is directed? We make it for ourselves, and the following is our receipt: for which we are indebted to Joseph James, Esq. If the ink is carefully made, according to the directions, though in the last we made they were much neglected, it is of the best quality of any that we ever met with.

Improved composition of black writing ink.

Take a gallon of soft water, and boil in it 1 lb. chips of logwood, for about half an hour, then take the decoction from the fire, and pour it from off the chips when boiling hot, on a pound of the best Aleppo galls, reduced to a fine powder, and two ounces of pomegranate peels, put into a proper vessel. After having stirred them well together with a wooden spatula for some time, place them in the sunshine in summer, or within the warmth of the fire in winter, for three or four days, stirring the mixture as often as may be convenient. At the end of that time add a half pound of green vitriol powdered, and let the mixture remain four or five days more, stirring it frequently, and then add further four ounces gum Arabic, dissolved in a quart of boiling water, and after giving the ink some time to settle, strain it off from the dregs, and keep it well stopped for use.

If the ink be desired to shine more, the proportion of pomegranate peel must be increased: and in the country, where the logwood cannot be so easily obtained, a pound of ripe privet berries may be substituted for it.

In order to secure this ink from growing mouldy, $\frac{1}{2}$ pint or more, of spirit of wine may be added; but to prevent its containing any acid, which may injure the ink, a little salt of tartar or pearl ashes, should be added previously, and the spirit poured off from it which will render it innocent with regard to the color of the ink.

Great Pigs in New York.—The Goshen (N. Y.) paper mentions, that two hogs, of 14 months old, were killed in that village last week, weighing together 837 lbs. including fat.

Mr. Levi Steele, of or near Albany, killed a pig a few days ago, which was 229 days old, and which weighed, when dressed, just 229 lbs. making one pound for each day of its age.

John Hulton and Thomas Jeremiah, butchers of the city of New York, recently purchased 8 pigs, 7 months old, weighing 1,599 lbs. These pigs were raised in New Windsor, Orange county, and were bought of William Houston. They were a mixture of the gray breed and the common breed of the country.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos numium sua si bona norunt
"Agricolae." . . . Virg.

VOL. I. BALTIMORE, FRIDAY, DECEMBER 31, 1849.

NUM. 40.

AGRICULTURAL.

On the comparative utility of OXEN AND HORSES, FOR AGRICULTURAL PURPOSES

No. III

The annexed Treatise was offered by the ingenious author, a resident of Alexandria, in the District of Columbia, to the Georgetown Agricultural Society, and took one of its premiums about six years ago.]

To the Agricultural Society of Georgetown.

ENTLEMEN,

The following brief essay on the mode of gearing and working oxen is offered with a tenderness, far harder to commendable, when I reflect on having cut out of the practice of using them, for several years, and on being guided by no data but a frail fugitive memory: indeed the attempt would have been made, had I not been apprehensive that important as this branch of agriculture is, it might possibly be overlooked, in the pursuit of others, deemed of still greater moment; and thereby the wing of a science, to which I have been a partialary, be suffered to remain stationary in this part of our country.

While occasionally travelling through most parts of the United States, I have found, by observation, that in no section were oxen so generally, nor of course so dexterously used, as in the District of Maine, where I was myself brought up. In this situation, I shall not be accused of arrogating for myself the credit of being a native of the State; for my brethren, from motives of vanity or pride, when it is considered that while our piodding peasant is slowly moving with a team, valued high at 150 dollars;—The Virginia wagoner proudly mounted, trots off with a set of steeds, which as many pounds would seldom purchase.

While I am persuaded from comparisons, that the practice has been according to the most approved modes extant; I am equally convinced that my permission therefrom, will subject my little treatise to many errors. I therefore hope to see the subject have justice done it from some able hand.

I always take pleasure in ruminating on the attributes of the ox;—majesty, ambition, patience, and attitude are apparent in his physiognomy;—and these properties are found inherent in this valuable quadruped: happy would it be for these much abused drudges, could as much be always said of our lord and master! I confess my reflections revive to these slaves, which have "borne the heat and burden of the day" with me, have operated in their favour, as a shield against every species of severity.

I have, when obliged to exercise a momentary right, had them turn towards me an honest, rebuking eye, which has never failed to have its full effect. They, together with other working cattle, have always appeared to me, the innocent victims of man's disobedience:—he fell, and drew them along with him into a painful servitude. He who could indulge in barbarity towards this patient, toiling animal, richly merits the doom of ever after preparing ground with a stubbing hoe.

In many respects proud man must look up to the beast as his superior:—man's reason is replete with error; but instinct, or the inference drawn by a brute, in certain sounds and motions, after having once learned their purport, is infallible. I have seen the drilled soldier mistake, for the instant, advance for recover arms, but never saw a well trained mistake gee for haw, or haw for gee:—hence

system is indispensable to the many correct working cattle: he who would work them with ease and facility, should maintain a strict uniformity in his conduct towards them. They must have names:—herefore calves intended to be raised for working, should be named, while young, to which they become familiar, by the time they are ready for the yoke. Any thing appropriate to their colour, shape, &c., is proper; such as *bright, broad, line, spark, buckstar, turk, golden, &c.*

The buffalo breed of cattle, or those without horns, will not answer well for working, as horns are necessary in hacking a cart, and in carrying it down hill. Oxen should never be charged in the yoke after having been broke;—the near and off ox should always remain as such:—By charging them, they become confused, and all the benefit of their tuition is lost.

A temporary change, however, can be made in one instance, to advantage; this is when they *hang off* from each other as they are apt to do in bad travelling, when they get tired: they then cut each others' feet with their shoes:—shifting them, puts this out of their head, for that time.

There are however, several ways in which oxen may be geared for work: they are willing to earn their bread any way: they have been tried, and found to pull by a yoke on the neck;—by a shaft, lashed across the forehead, and traces to its ends;—by traces fastened to the horns;—by harness, like horses; and they will pull by the tail. From these various modes, it is the husbandman's duty first, to study the nature, and convenience of the ox;—secondly, economy, and his own convenience; and then select that which embraces most of these desirable objects.

There are but two of these modes mentioned, that can be adopted with any degree of satisfaction or success. These are the yoke and the harness. From the former being in general, not to say universal use, the inference is a natural one, that some inconvenience must attend the latter. The form of the ox is one objection to harness:—his belly is so much wider than his shoulders, it is embraced so hard by the iron traces as to impede his wind, as well as to be injured by galling. The yoke, on the other hand, being of hard wood, appears to be an instrument that would gall, but I never knew any injury done by it: the neck of the bullock seems by nature, fitted for the yoke: the skin, naturally thick, soon becomes so callous as not to be hurt by friction; it is there his strength lies, even to a proverb.

In point of economy, there is a wide disparity between the harness and yoke: the expense of the former to that of the latter, for eight years' wear, would be as ten to one; and the time of earing and ungearing, is as three to one. In other words; a yoke will cost only five dollars, which will average eight years' wear, and can be put to oxen in two minutes.

A yoke which is properly made for oxen of equal size and strength, will have no particular end for the near, or off ox; but the bows being sometimes untrue, will fit to the neck better one particular way:—this, the nice teamster will observe and always put them so. An ox can feel as sensibly as a man, the pains of tight or unfitting accoutrements; but not being so fluently gifted, and being too noble and patient to shrink on that account, from his task; it particularly behoves every driver, (who cannot all day wear a key, or penknife in the foot of his boot) to be vigilant that the tackle sits easy and free on his team.

When oxen are unequally matched, as to strength,

the strongest is apt to carry his end of the yoke several inches before the other; this makes the yoke uneasy to them, and is soon remedied, by putting the saddle of the yoke nearest to the end of the strong ox. It does not however always follow that the stronger ox carries the front end of the yoke;—it often occurs that an inequality of strength begets such a position in the weaker ox, as will ruin him by overstraining himself for an ever yoke. The driver should be attentive to this circumstance, (if it ever occurs with him) and remedy it, as has been just pointed out.

It is unnecessary, in yoking well tutored oxen, to tug the yoke round the yare after them, as they are easily called to that. I have often called the ox I wanted from a drove of all sorts of cattle. Stand the yoke on one end—take out the off ox's bow;—seize the yoke with the left hand, and with the right, hold up the bow towards the ox, and beckoning with it, call him by name to you; slip the bow under his neck; turn the yoke down upon it; enter it in the bow holes, and put in the bow pin; then take out the other bow, and lifting up the near end of the yoke with the left hand; with the bow in the right, call the near ox also by name, who will come and "bow his neck to the yoke," and is harnessed the same as his companion.

An ox goad to drive with, is made of hickory, or any tough wood, three and a half to four and a half feet long, as may suit the whim of the driver—about the size of a man's finger, with a prick or sharp point of iron in the end, projecting not more than a quarter of an inch. This is more cheap and simple, and has been found to answer much better than a whip, or a long green withe. The ludicrous practice of using the latter, and of having a driver on both sides of the team, to keep them straight, or of fastening a rope to the horn of the near ox for the same purpose, cannot be too soon exploded. Riding on oxen is a shameful lazy practice that should also be done away. Oxen may, and ought to be so taught that by speaking to them and making a kind of beckoning motion with the goad, they will "come to," or in other words turn to the left, without the trouble of an assistant on the off side, or a rope to pull them round.

I would have one thing remembered in driving oxen (which also applies to every species of servants) I mean the impolitic habit of a uniform harsh deportment, and of keeping the goad constantly going over them; it is a needless tax upon the lungs and sinews; the oxen will not do so much work for it, and what is worse they become so callous from this perpetual rough discipline, that they cannot easily be brought to any extra exertion when it is indeed necessary.

The benefit of a calm management has been very apparent to me, when I have been driving in company with these peevish geniuses, and coming to a stop bid, I would then speak sharp and determined to my team, and ply the goad pretty freely; (if necessary) this treatment so novel, would be fully appreciated: every one of them would pull as for his life and the hill would be quickly surmounted; while the driver who has always been speaking harshly and always been plying his goad, could not here make use of any new argument to stimulate his cattle to the exigence of the moment; the consequence was he would often have to receive assistance from a team no stronger than his own. Drivers should acquaint themselves with the burthen of their oxen, and never lead them beyond it: it discourages and hurts them.

Because they are very strong, many multi task-masters appear to believe them omnipotent,—

When they are properly taken care of they are not apt to be sparing of their strength; they are sometimes profuse with it.

I have often been beset with difficulties, when at work alone in the wood with a yoke or two of oxen; and have then thought I could perceive traits of reason in them; for in proportion to my anxiety and exertions to extricate myself, have I seen their spontaneity to increase.

That all cattle should be sheltered in cold and wet weather, is obvious to every person; but to those that work, it is indispensable—their health and strength depend upon it.

From the severity and duration of our winters, at the northward, our barns are generally spacious, and calculated to hold as much as possible of our grain and hay. No doubt however, but this is good economy in every climate in the U States; as the farmer loses as much in quantity and quality of his produce in a short time, by stacking out, as would build a barn.

Our old fashioned barns, I believe, are not susceptible of much improvement. Those which cattle are wintered in, are built at a small distance from the house on a rising ground, with a yard open to, and descending a little towards the south, if such a spot be near; it being thereby warmer, kept cleaner, and the wash enriches the adjacent ground. The barn has two large doors opposite each other, for the convenience of driving in loads of grain and hay; on one or both sides of this thorough fare, is a stall for cattle, say ten feet wide and six and a half high, and running the whole width of the barn; so that if a barn were forty feet long, the stalls would take up ten feet on each end, and twenty would, of course, be the width of the thorough fare; which latter being also used as the threshing floor, is floored with two inch plank well joined. The partition between this and the stalls is only three feet high, for the convenience of feeding the cattle, whose crib joins the partition, and is thus made: A piece of timber, the length of the stall, about four inches thick, by eight wide, is laid down on edge, parallel with the partition, and two and a half feet from it: this makes a crib on the floor, being the most natural one that cattle can have to feed at. It is kept perfectly clean, as the stall floors have a gradual descent of about 3 inches. Immediately over this timber, is another smaller one of the same length, fixed to the joists above; in both of these timbers from end to end, holes are bored at three feet distance, and smooth round stantions or studs, 3 inches in diameter, are fixed therein: round each of these stantions is bent a small hickory hank or hoop, sufficiently loose to play up and down thereon; a wooden bow passing through this hoop, embraces the neck of the ox, who is thereby kept at his post, yet still has every rational liberty. He has room to eat his food, lay down, or stand at his pleasure. See drawing at the end of this essay. These stalls have small windows, 4 feet from the floor, and at convenient distances from each other through which to throw the manure. Satisfactory experience of the safety and economy of this mode of housing cattle has made it universal in that quarter.

On tying up cattle for the night, respect should be had to mastery among them; the strongest should be put in first, and at the further end from the door, and so on, according as they hold dominion over each other, leaving the cows, yearlings, &c. next the door, in case of civil war among them.

It is interesting when "the curfew tolls the knell of parting day," and the farmers boy opens his stall door and gives a nod of invitation to his 'leading characters,' to see them forming a line of march, entering the door, and taking their places precisely according to rank, without martial music, word of command, or confusion. But I beg pardon for this long digression, touching a subject too, which is doubtless familiar to every farmer.

The thorough-bred teamster never suffers him to partake of his repast, before his oxen have begun theirs. They require little else in winter, but

good wholesome hay and water; but when sufficient time cannot well be allowed them to dine on hay, then corn in the ear is the best thing that can be given them. Pumpkins are also very grateful to them, and being remarkably prolific, may be raised with little trouble. In winter cattle are tied up and fed about sunset; fed again at 8 or 9 o'clock, again at day light, then at sunrise they are ready for the labours of the day. This mode of feeding is considered preferable, being fresher in small quantities, eaten more freely, and less liable to get under their feet and be wasted.

Carts being cheaper than wagons, and handier about the ordinary business of a farm, are therefore to be desired. Different kinds of bodies may be attached occasionally to one pair of wheels; an open one for hay, sheaves, &c. and a close one for fruit and vegetables. The naked wheels are handy to haul spars, poles, and all kinds of long timber on. In hitching a cart to the oxen, the tongue or spire thereof passes into the ring of the ox yoke, as far as a shoulder in the tongue will permit; an iron instrument called a copse, resembling the capital letter U, is put on the end of the tongue embracing it above and below, and the copse pin is inserted through the end of the tongue and through the copse. This copse is for the purpose of hitching the second yoke of oxen to, when necessary. See drawing.

Wherever oxen and yokes are used, chains become indispensable; four of these each ten feet long, with a hook in each end, or part of them with a ring in one end and a hook at the other, are enough for two or three yokes of oxen.

I shall only add a few observations on the manner of shoeing oxen; for that they need shoes as much as horses, especially on slippery and frozen ground, is evident. Many smiths cast them down upon straw, tie all their feet together, and shoe them in that ig-

nominous posture, which strains and injures the creature. The most approved method is, by having a frame made for the purpose, in which is a small platform, raised about a foot above the ground; the ox walks on to this platform; his head and shoulders are then confined by stantions—wide leather bands, having one end fast at the frame above, are brought down, passed under his belly and carried up to a windlass, which being strained, he is gently raised, so that his feet touch lightly on the platform; one fore foot and one hind one are then drawn out, and fastened upon small posts, when the shoes are put on without further trouble.

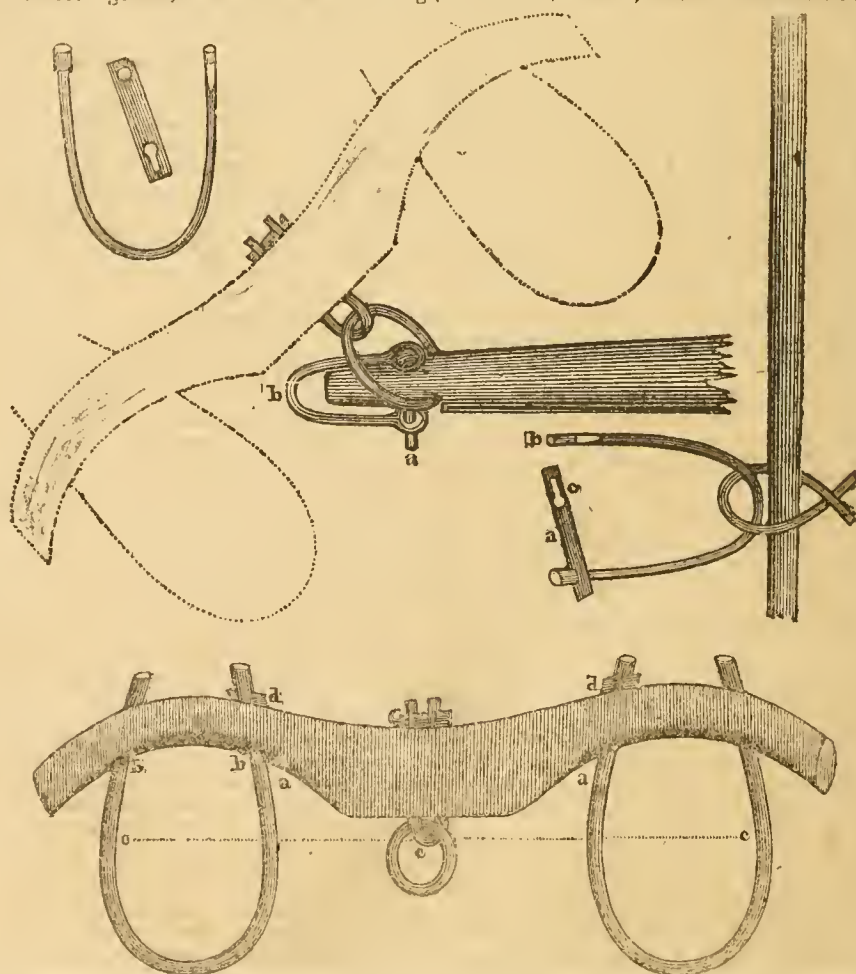
The drawings below are necessary for a better understanding of this essay.

The first is the representation of a cart tongue, hitched to a yoke as in the act of drawing, a is the copse pin, which goes through the tongue, and by which the yoke draws; b is the copse by which the second pair is hitched when necessary.

Beside this is a stantion and bows by which cattle are secured at their crib, a the cap lies flat on top of their neck; the end of the bow at b is something like a button, and is put in the hole at c and springs into its place.

Below is the model and size of a yoke for a middling sized pair of oxen. Whole length 3½ feet, distance of bow holes, a to a, 20 inches do from b to b, in the clear, six and a half inches. The bows being something of an oval form and c c being the greatest swell and where the ox's shoulders come, the staple c should be in a direct line b-tween, so that the strain will come right, in drawing d d may be flat keys or round pins of wood, one in each bow is sufficient: the stuff of which the bows are made, must be at least 1½ inches in diameter.

Respectfully submitted by your very humble serv't. Alexandria, Nov. 12, 1812. EPHRAIM GILMAN.



FOR THE AMERICAN FARMER.

Proceeding of the Agricultural Society of Albemarle.

Papers communicated for publication by the Corresponding Committee.

A NOTICE OF THE BOTT-FLY OF HORSES:

The Oestrus Equinus of Linné.

No. 4.

[READ MAY 10th, 1819.]

That species of *Oestrus* which produces the Botts in horses, when in the fly state, shows not only a manifest consciousness of having derived its origin from the horse, but a distinct remembrance of having resided in the early part of its life in the body of that animal. The pregnant female endeavours to deposit her eggs in the mouth of the horse. The animal, knowing by experience the intention, rets, stamps, and moves its head up and down, to get rid of the importunities of the insect. Such is the shape of the abdomen from the elongation of the viduct in the fly, that it succeeds whenever the underlip of the horse is found by it a little separate from the upper; which is often the case in a great degree when the animal sleeps on its feet. If foiled in that attempt, the insect hovers around the body of the horse, occasionally darting with the swiftness of an arrow, to some selected spot, where it affixes its eggs to the hair by means of a glutinous matter in which they are enveloped. In choosing a place it evidently seeks to ensure shelter for the eggs from the effects of rain, which are of course known to it from its own experience. That the insect selects those parts of the horse, which are in some degree sheltered from the rain, and yet exposed to the sun, and not those, at which the horse is most apt to bite in order to allay itching, is quite obvious. An instinctive knowledge of this enemy is attributed to the horse, without reason, in spite of the manifest absurdity involved in the supposition, that an animal so far inferior to man, should possess from nature an intelligence superior to his in a matter of so much importance. It is not probable that this fly could attract the notice of the horse so strongly, if it were not for the repeated assaults it makes, on the mouth of the animal, and its resemblance to many insects that bear other means of annoyance.

Monsieur Daubenton in his anatomical description of the horse, which is to be found in the Natural History of Count de Buffon, says, in treating on this subject: "There were a great many worms in this stomach" (that of an old robust horse killed in the spring season) "as in all the different stomachs of the other horses we opened, in number altogether more than sixty, of different descriptions. The worms were male and female, and of very different sizes. I counted as many as six hundred and sixty of them in a single stomach; besides which there were yet any others at, or near to, the other extremity of the alimentary canals; (et outre cela, il y en avoit encore plusieurs a l'autre bout!)—but we saw none in the intestines between. They were all oblong and of different sizes. The smallest were three lines long and about one line in diameter. The length of the largest was eight lines, their breadth three lines, and their thickness two lines (a line is equal to two French millimetres, or 0.07876 of an inch English.) Some of them were of a yellow line, and others, particularly the smallest, of a colour inclining to red. The fore part of these insects is narrower than the hind part, which gives to their figure the appearance of a small cone. Their body is encircled with eight or nine rings, upon which are little bristly points of considerable hardness. At their anterior extremity they have hooks (crotchets) by means of which they fasten themselves to prevent being carried away with the aliment. Indeed those short bristles which protect from their bodies, in circles, on the edges of the rings, contribute to keep them in their places, for

they have a direction backwards from the head. We have always found these worms at the beginning of the duo denum, quite close to the Pylorus in greater number than any where else. They are ranged side by side. The fore part of them is always buried in the little cavities which they make for themselves in the walls of the intestines. They are also dispersed over the whole surface of the stomach, and many different spots on the villous coat, which bear the appearance of having been gnawed or destroyed by them, may often be seen. Indeed it has been observed that they often make holes in the stomach and cause gangrene. To this may be well added that the elder Monro, Professor of anatomy in Edinburgh, for many years before 1767, demonstrated that the membrane which lines the inside of the stomach and intestines in man and other animals, is not the same continued substance with the cuticle, or scarf skin, which covers the external of the body, is at least of the same kind, having analogous uses and advantages and equally liable to thicken and harden, to become callous, and inextensible, from similar causes. In one case it is stretched and smooth, and in the other it hangs loose and floating when fluids are present. This might be expected from the different circumstances of its forming a lining to a convex or concave surface, being more or less exposed to accidents, and existing generally with or entirely without protecting liquors. When this fact is considered it is no longer matter of surprise that the stomach of man receives, with so little injury, substances of such powerful action; or that the horse suffers so little from the ordinary attacks of the Botts, which perhaps rarely penetrate through the villous coat during the life of that animal.

Monsieur Daubenton proceeds thus upon this subject, "It is pretended that these worms are produced by flies, which place them within the bowels of the horse; or at least deposit eggs there which very soon hatch, and become the worms in question. These worms they say traverse the whole length of the intestines to the stomach, where, however, they remain only for a certain time, after which they return to the extremity. They have been seen to come forth in the months of May and June, to be speedily transformed, it is believed, into a species of fly, which reproduces them anew. This is not the place to give the history of these worms and the flies any further than their connexion with the horse. It cannot be doubted that they are fatal to a great number, since they have the power of causing ulcers in their stomachs and even of piercing them through. It is pretended that oily substances do not destroy them as they do many other insects. But oils are recommended against the White Worms, which are pointed at the two ends, and which are sometimes more than six inches long; also against those the form of which resembles a large owl (*grosse owl*), which latter are very dangerous to horses. I have never once found any of the last in those I have opened, but I have often met with long worms, and sometimes with small flat worms very white and formed of several rings. Mercurial remedies have been proposed against those in the shape of a cone, but have not been fully tried. This subject nevertheless is very interesting. Besides the stomach and intestines of the horse are formed in a manner so singular as to deserve the attention of physicians, as well as naturalists. Digestion must be performed by it in a manner quite peculiar, for the stomach is very small in comparison with the bulk of the animal, while on the contrary the colon has very large pouches in it, which seem to serve in some measure instead of the stomach. It is already known that the conformation renders vomiting impossible in the horse from the peculiar insertion of the gullet, which enters the stomach obliquely, and is moreover compressed by a sphincter muscle, as well as occupied by a duplication in one part. The great extent of the colon must also produce an effect on the stomach, and have an influence generally upon the constitution, functions, and diseases of the horse." The object of this quotation is to call the attention of this

society to the insect which is supposed to be the cause of a very considerable annual loss in horses, all over the world. No new information on the subject is pretended to be obtained, nor even is it intended to suggest any new remedy. The writer rejects in his own practice all but alum, in which he has the utmost confidence, founded on the experience of many years. He has always been able to give instantaneous relief to his horses, when suffering from the grubs, by drenching with a solution of alum in common water. No doubt the medicine acts by its styptic quality, which contracts the rings of which the body of the worm is composed, and disengages the bristles growing upon them from the barbed hold they have in the rugae of the villous membrane. Yet he was not led to the remedy by this indication, as sure as it seems to be; but received it from persons unacquainted with the formation of the grub in that respect. It is quite probable that the Bott may not have the power of contracting its rings at all times, so as to disentangle the loose and floating *tunica villosa* from the points of its bristles by which it is prevented from dropping off after it has let go its hold with the hooks at the mouth. That effect is produced for it, mechanically, by the styptic property of the alum which reduces the dimensions of the body every way, and very probably sheathes the bristles within their rings by the contraction lengthways which it causes. Why the grub should suddenly take deeper hold with its hooks, so as to penetrate to the muscular wall of the stomach, by which it gives so much pain and often causes gangrene, is not known. As it takes its nourishment from the fluid parts of the chyme which afterwards becomes the chyle formed by the digestive process, out of the food taken in by the horse, a great change in the power of the gastric juices, from general debility produced by excessive fatigue, and too long fasting may perhaps alter the nature of that nourishing liquor, or lessen the quantity so much, as to produce uneasiness, and dangerous restlessness and activity in the grub. There can be no doubt that these insects, at a certain stage of their growth, let go their hold of their own accord, and abandon themselves to the course of the aliments, by which they are carried without the body of the horse, with the fecal matter. Strong cathartics given after the solution of alum, would of course cause an earlier departure and might greatly lessen the number of the flies; as the grubs so expelled, might not be sufficiently mature to go through the double transformation which succeeds their arrival in the open air at the natural period.

THOMAS M. RANDOLPH.

The SECRETARY of the Agricultural Society of Albemarle.

FROM THE ALBANY ARGUS.

Treatise on Agriculture.

SECTION IX.—continued.

Of the plants recommended for a course of crops (in the preceding section) and their culture.

VIII. Of Indian Corn.

This is a native of South America, and was introduced into Europe in the 16th century, where it is known by the names of wheat of Turkey, Indian wheat, Spanish wheat, &c. (1) Its productiveness and other good qualities, have brought it into general use, for it is now found in every

(1) This the Zea of the botanist. In what does this differ from the Zea or Seaman of the ancients? The favourite dish of the Romans was *Alica* and "*Alica fit e zeo, quam semen aspellavimus.*" Plin. 18 lib. Nat. Hist.

part of the globe, where its cultivation is not forbidden, by the coldness of the climate. With proper culture, it grows well in a great variety of soils; but prefers old and rich pasture grounds, artificial meadows, warm loams and moist vegetable mould.

There are many varieties of this grain, denominated from colour, number of rows of the grain, and different periods of ripening. The *white* and the *yellow* (8 or 12 rows) are the varieties generally preferred.

Corn from its bulk, its prolific character and system of roots, must necessarily be a great feeder, and draw much of its supplies from the earth: whence arises the rule, that it ought not immediately to follow, or to precede, any other gramineal crop; and that it be not found oftener than once in six years in the same field.

The seed should be taken from the finest ears of the last year's crop, and from those growing on stems which have had the largest number of and often diseased; if both wet and cold, no ears are produced, and on the other hand, if moist and warm, (more particularly when the grain is flowering) the crop is excellent. To produce any great difference of result, in the *modes of planting*. Furrows are sometimes made at the distance of three or four feet from each other, and in one direction only, and in these the seed is placed, fourteen or sixteen inches apart. At other times, the field is furrowed both ways, and the seeds dropped and covered at the points of intersection; while again, two rows of beans or potatoes, or mangle wurzel, are interposed between as many rows of corn. This last practice is most conformable to theory, but the other methods generally prevail, and pumpkins, beans or turnips form the under crops.

Whatever method be adapted, the *time of planting* is that at which the earth first acquires the warmth necessary to vegetation, and which is sufficiently indicated by her spontaneous productions. If we plant earlier, the seed is apt to rot; if later, the ripening of the crop is hazarded. No crop while growing, requires more attention than corn, and none better repays the labour bestowed upon it. The objects of this are two, to extirpate weeds and to keep the earth loose and open to the influences of the atmosphere. As soon therefore as weeds begin to show themselves, the surface of the field must be well harrowed. Plastering is the next operation, and may, at the distance of a few days, be repeated with advantage. The weeds will now re-appear, when the triangular harrow, accommodated to the width of the intervals, must be employed. This, drawn by a single horse, will do its work expeditiously and well. The plough called the cultivator, with a double mould board, follows the harrow, and is itself followed by the hand hoe, which alone can perform well the last and great operation of *hilling* the corn. The effect of this is to enable the grain to form new joints near the surface of the earth, whence will issue lateral roots, fitted to receive an additional quantity of aliment necessary or proper for the plant.(3) Care must however be taken to flat-

ten these little mounds of earth, so as to make them better recipients of water.

Corn is sometimes cultivated with a view only to the forage it may yield; in which case it is generally sown broadcast, at the rate of ten bushels to the acre, and cut green, while its saccharine qualities most abound. We are told by M. Bosc, that in the volcanic soil of Vicentini, in Italy, corn managed in this way, gives four crops in the year. As dry forage, it is a great resource in warm climates, where natural meadows are rare, and artificial nearly unknown. In the eastern parts of Virginia, it furnishes the principal stock of horse fodder; and in our northern latitudes, it is a useful supplement to clover, timothy and red top hay.

The produce of corn is much affected by weather. If this be hot, and dry, the leaves, stems and ears are all diminutive; if wet, the leaves and stems are abundant, but the ears deficient and often diseased; if both wet and cold, no ears are produced, and on the other hand, if moist and warm, (more particularly when the grain is flowering) the crop is excellent. To produce any great difference of result, in the *modes of planting*. Furrows are sometimes made at the distance of three or four feet from each other, and in one direction only, and in these the seed is placed, fourteen or sixteen inches apart. At other times, the field is furrowed both ways, and the seeds dropped and covered at the points of intersection; while again, two rows of beans or potatoes, or mangle wurzel, are interposed between as many rows of corn. This last practice is most conformable to theory, but the other methods generally prevail, and pumpkins, beans or turnips form the under crops.

IX. Of Beans.

Of these, there are several species, which, to occupiers of clay soils, are of the utmost importance, because in them, the beans thrive best, while at the same time, they greatly ameliorate and fit them for wheat and oat crops. The species most recommended, are the Heligoland, or small horse bean of England, and the white bean. The former, is vigorous, hardy and productive, and an excellent food for cattle; the latter is more delicate and nutritive, and much employed as a food for man.(4)

If beans are made to condescend a course of crops, as they may very properly do, they ought to receive the dung of the year, which, as in the case of potatoes, should be spread over the surface of the field and ploughed in without loss of time. The moment the spring frosts are over, the planting should take place—in rows, or in hills (as described in the last article for corn; and throughout the whole course of vegetation, the crop must be kept free from weeds, a condition that if well observed, will secure an abundant produce (5)

X. Of Oats.

Oats is, among grains, what the ass is among animals—very little respected, but very extensively employed. The *levis avena* of Ovid, and the *steriles dominantur avena* of Virgil, show the degrees, both of use and abuse, with which it was regarded by the Romans. In modern

tration of it, we refer him to the memoir of M. Varenne de Fenilles, who has proved, that the crop is increased one thirteenth merely by hilling.

(4) Pythagoras, forbade his disciples the use of beans—whence we may conclude that the Greeks cultivated only the horse bean or bean of the marshes.

(5) In a favourable season, under good management, the white bean gives thirty for one.

times, a great literary authority describes it, as food for Scotch men and English horses. It is probably this state of degradation among poets and philosophers, that determined the botanists of Europe, to give to America, the honour of having produced it. Mr. Adanson found it growing spontaneously in Juan Fernandez; whence the scavans wisely concluded, that it must be a native of Chili! But in this conclusion, they appear to have equally forgotten the laws of nature and the decisions of history; for the quotations with which we began this article, show, that oats were cultivated in Italy, many centuries before the existence of America was known to any European; and few are ignorant, that Chili is among the hottest and driest regions of the globe, and that oats perish in dry and hot climates.

Of the many different species, or varieties of this grain, the *black* and the *white*, are those which best deserve cultivation; because most hardy and productive. In the poorest soil and with the smallest possible labour, they give something, but because they do not give much, (in circumstances under which other grains would give nothing,) we infer, that the grain itself is a poor one, and, at the same time, a great exhauster of the soil. We owe to Mr. Drusus a series of experiments and calculations, which overturn this opinion, and demonstrate, that "oats in rotation, under proper culture and in good soil, are not less profitable than wheat or rye; that after beans cabbages or potatoes, it yields great crops, and that it exhausts less than other grains, which occupy the soil a great length of time." As a protector of clover or other grass seeds, (and with it some of these should always be sown,) it is second only to barley.

XI. Of Cabbages.

These have been long known among us as a garden vegetable, but are rarely met with in field culture; a fact the more extraordinary, as in England, they have been very extensively and profitably employed in that way for more than half a century.

The species most recommended, are the early Salisbury and York, the great Scotch, the Drumhead, the Cavalier and the green Savoy. Mr. Cobbet has remarked, with much good sense, that the species best for man, are also best for cattle, and that on this ground, the last of those mentioned, should form the principle part of our cabbage crop.

The seed of early cabbages, (as the York and the Salisbury) should be sown in hot beds, about the middle of February; and that of winter and fall cabbages, in the open field, about the 15th of May. The bed selected for the latter, should be of good soil and well ventilated; that is, exposed on all sides to the influences of the air, and without artificial shelter. When the plants rise, they should be sprinkled with unleached ashes, or gypsum, and if attacked by the fly, may be slightly and temporarily covered with branches of elder. If the weather be uncommonly dry, a little watering may be proper, but much of this should be avoided, because plants, like animals, may become topers, and will then drink more than will be useful to them.

The transplanting of early cabbages, should not be delayed beyond the 12th of May, nor that of the late kinds beyond the 1st of June. An

(2) See in Judge Peter's Notices to young Farmers the effect of this solution on corn crops.

(3) Bonnet was the first to make this observation, but if the reader wishes to see a full illus-

acre of ground will require about six thousand plants.

The preparation of the soil, for this crop, is exactly that described for potatoes, and which, therefore, need not be repeated here. When the manuring, ploughing and harrowing are finished, strike your furrows, from east to west, four feet apart, place your plants in these, twenty inches from each other, and do not forget so to press the earth, as to bring it in contact with every part of the roots.

The advantage of this crop, will be best seen, by contrasting it with another; hay for example; If we get a ton of timothy, per acre, we think we do well and are satisfied; yet, if this acre had been well worked and manured and planted in cabbages, it would, according to Mr. Young, have given you more than *thirty* times the weight of the hay. Why not then prefer the cabbages to the hay? Our cattle, it may be said, will not like them so well. Here what the same author says on this head; "Young cattle go through the winter well on cabbages: ewes and lambs thrive on them; fattening oxen improve faster on them, than on any other food, and never fall off, as they sometimes do, on turnips; and milch cows do better on cabbages six to one, than on hay, &c." But the difficulty of preserving them through the winter, may be great? Not half as great as that of preserving potatoes, for a frost, that will convert these into dirty water, will do cabbages no harm, and may even do them good. Mr. Cobbett preserved them through a Long Island winter, and had them sound and fresh in the month of May, and by a method equally cheap and expeditious; requiring only a plough, a few leaves, straw or brush, and some shovels full of earth "and here," says he, "they were at all times ready; for to this land, I could have gone at any time, and have brought away (if the quantity had been large) a wagon load in ten minutes."

XII. *Of Buckwheat.*

This excellent grain is a native of Asia, whence it was carried to Africa, and thence, by the Moors, to Europe. In France, it yet retains the name of *Sarrasin*.

The species of it in cultivation are two—the common and the Tartarean, (*Polygonum Tartaricum* of Linnæus.) This last species, is highly extolled by professor Pallas and others. It ripens earlier, and produces more than the common species; but, on the other hand, it shells more easily and has in it an unpleasant degree of bitterness.

Cattle, hogs and poultry are particularly fond of this grain, and no food fattens them more promptly.

Being entirely destitute of gluten, (the animal vegetable part of wheat) it is not convertible into bread; but made into batter and baked into cakes, it forms a very tolerable substitute. Another great advantage of buckwheat is, that, with a small degree of labour, it thrives well in the poorest sand or gravel: and that in dry clays, as in those which are only moist, it gives a good crop, and never fails to leave them loose, friable and clean. To the clay-land farmer, this property is invaluable; and to make the most of it, he should remember, that this labour saving

grain, ought to have more of attention and liberality than is generally given to it; for if, under the hard treatment, and in the by-places where it is now cultivated, it yields much and works these important effects on the soil, how greatly would its usefulness be increased, were it made to follow peas, beans, cabbages, or potatoes, in regular rotation, and on a large scale.

We have already spoken of it as a manure, and we take this occasion to quote, from a late editor of the *Theatre D'Agriculture* of O. Serres the following passage: "We cannot too much recommend after our old constant practice, the employment of this precious plant, as a manure, it is certainly the most economical and convenient the farmer can employ. A small quantity of seed, costing very little, sows a large surface, and gives a great crop. When in flower, first roll and then plough it in. Its shade while growing destroys all weeds, and itself, when buried, is soon converted into terrene."

The experiments of M. Vauquelin show, that of *one hundred* parts of buckwheat, *fifty* are carbonate and sulphate of potash and carbonate of lime.

Smut.—The cause of smut in wheat has been productive of much investigation and speculation; but since the means have been discovered of preventing it, we may well rest satisfied with this.

In the year 1787, Mr. Young sowed fourteen beds with the same wheat seed, as black with smut, he says, as he ever saw any. The first bed was sown with this wheat without washing, and this had 377 smut ears; that washed in clean water, had 325; that in lime water, had 43; that in lie of wood ashes, had 31; that in arsenic, had 28. Again—that steeped in lime water four hours, had 12; that in arsenic four hours, had one. And again—that which was steeped in lie as before mentioned, 12 hours, had one—and that which was steeped in the same kind of lie 24 hours had none; that also which was steeped 24 hours in lime water, had none; that steeped in arsenic 24 hours, had five.

Thus it appears certainly that steeping the seed wheat twenty four hours in lie will effectually prevent smut. Let the lie be made pretty strong, and if the wheat be steeped longer than this length of time it will not injure it, unless it be kept too warm. Lime water, applied in the same manner will no doubt answer the same purpose.

If steeping in arsenic a longer time should prove effectual, this would also be an excellent antidote to birds; or to prevent them from picking up the seeds, the lie water, and arsenic might be used together.—*Pittsfield Sun*.

From the *National Intelligencer*.

On the Grape Vine, with its wines, brandies, salt, and dried fruits.

No. VII

The maize region of France extends from the Mediterranean coast nearly to the *Loire*, including *Poitou*, and the country south of a line from *Chenonceau* to *Nancy*. The wine country of France extends from the Mediterranean to the north of that line, since profitable vineyards are found in

Champagne, Maine, Orleans, and the central part of *Lorraine*, where the maize is not cultivated as a crop.

By parity of reason, the wine region of the United States must be considered as certainly to extend, with equal profit, from the gulf of Mexico to those parts of the United States where the maize, or Indian corn is to be considered as a sure crop, never defeated by frost. In a clear, well drained, and dry state of the country, this must be expected to the latitude of 40 degrees, and even further north.

The recent crop of wine at Vevay, on the Ohio, is found to amount to about forty-two thousand bottles, equal in size to those of the imported Claret Vin de Grave, and Sauterne. This is a further proof of the steadiness of the production even of the northern extremity of the vine district of the United States.—We cannot doubt, in opposition to such facts.

A sample of North American wine has been received by Richard Peters, Esq. President, and Dr. James Mease, Vice President, of the excellent Agricultural Society, long established in the city and county of Philadelphia. This specimen was sent to them by Dr. Samuel L. Mitchell, of New York. It was presented to the latter gentlemen by Col. Barton, of Plymouth, on the Roanoke river, in North Carolina, and was produced and made in that vicinity, being nearly in latitude 36 degrees north. It is presumed to be of the wild *Scuppernon* grape of that vicinity, which is white. The wine was amber coloured, pleasant, sweet rather than dry, quick in its effects on the stomach and head, and otherwise. This new evidence, from a vicinity about eighty miles due south of Glasgow in Barren county, of Kentucky, affords a further proof of the Northern extension of our wine grape region. It is worthy of observation, that the great Alligator Swamp, and other marshes, are near and almost around the country in which Plymouth is situated.

Further inquiry concerning the settlement and vineyard near *Harmony*, in Butler county, in Pennsylvania, about twenty-five miles westward of Pittsburg, justify the remark, that the experiment, even so far north as that place, in 40 degrees and 40 minutes, and in a country yet very imperfectly cleared of its forests, and drained in its swamps and marshes, is not discouraging. It is well established that the grape will be a certain and elegant addition to the pleasures of the table in the counties of Pennsylvania, around the head of the Ohio, and will even reward men of care and skill with a wine like those of Lower Rhine.

As the wine region of France begins on the Mediterranean sea, in about 43 degrees north, and proceeds on the whole east side of that kingdom to the northern extremity of Champagne, in latitude 49 degrees, it covers a country of about six degrees. If we consider our vine region as beginning at least at the end of the 39th degree, at this time, and extending south six degrees, it will carry us to latitude 33 degrees, at which line our climate, corresponding with the Mediterranean coast of France, may be held to commence. It is therefore of the utmost importance that there exists a very precious work, most carefully prepared in France, which gives to us the natural and agricultural history of this noble

plant, which is therein emphatically declared to rank as the second object in the agriculture of that kingdom; that is to say, next to the alimentary grains. This work is the whole of the two articles of 'La Vigne,' or the vine; and of 'Vin,' or wine. In the tenth 4to. vol. of the work entitled 'A Complete course of Agriculture, theoretical, practical, economical, medicinal, rural, and veterinary; or the Universal Dictionary of Agriculture, by a Society of Agriculture, digested in 1793 and 4, by the Abbe Francis Rozier, a native of Lyons, revised and digested anew in 1801, by Chaptal, Counsellor of State, and Member of the National Institute, and Dussieux, and others.'

Since this work gives the most safe and excellent instructions concerning the culture of the vine, and the making or preparation of wines, wine brandies, cream of tartar, or the salt of wine, and dried grapes, or raisins, and since it applies, in the most particular manner, to all our vine region which is similar to the whole vine region of France the interests of the United States imperiously demand that it should be read, translated and published, with notes adapted to the soil, climate, and other circumstances of our country. It might be given probably in an octavo volume of 500 pages, with a few useful copperplate prints of the various grapes, utensils, and buildings.

In regard to the parts of the United States which lie south of 33, the whole of which will do for wine and grapes, as well as the rich and flat *palus*, or well drained and dried bottom lands near to Bordeaux, the climate in that most southern section of our country requires, that we take a part of our instruction from the books and people of Spain, Portugal, Italy, and Cohaula. The best amber wine of Andalusia is the most cordial in Spain, but the best red wine of Catalonia, in Spain, is more light, elegant and admired in Madrid for the use of their most expensive families. Our wine region in the United States may be safely considered as beginning, on all the suitable lands, on the Gulf of Mexico, and extending north to the 39th or 40th degree, especially after our country shall be cleared, drained, and well dried.

It will be useful to observe, that the American Gardner, published by the late Mr. Bernard Mc Mahon, and lately continued in a new edition by his son, Mr. Thomas P. Mc Mahon, of Philadelphia, contains a very useful portion of instruction on this subject. It is now in the hands of many planters, and in all our book stores.

Besides the regular agricultural books of France, Spain, Portugal, and Italy, the Cyclopædias and the writing of travellers may be usefully searched for matter on the Vine, and much pleasing instruction may be obtained in the opportunities of conversation with respectable foreigners who visit our country or settle in it, or with intelligent travellers among our own citizens. The subject is too important to be longer neglected or postponed. The times require the extension, the diversification, and improvement of our agriculture, as one of the surest remedies for the momentary disorders of the body politic. These considerations occasioned the capacities of the United States for the production of the grape vine, and the fabrication of wines, and wine brandies,

with the preparation of the dried fruit and the use of the fresh grapes, to present themselves with great interest. An opening of this subject has been respectfully submitted, in these six papers to the public consideration, and may at a suitable time, be again resumed; or may be taken up by various hands, in different parts of the United States. This disquisition will for the present, be discontinued with the most earnest recommendation, that a number of our fellow citizens who have, or are near to vineyards, would favour the public with accounts of their situations, commencement, management and success, in the preparation of wine. Experience, highly useful in all cases, is of moral necessity in matters of novelty and moment.

A Friend to National Industry.
Philadelphia, Nov. 23, 1819.

GRAPES OF FRANCE.

1 Neumier blanc	18 Petit Muscadet
2 Morillon noir	19 Bourguignon blanc
3 Morillon blanc lobe	
4 Pineau	20 Le Gouais
5 Bourguignon noir	21 Gouais blanc
6 Grisot blanc	22 Game noir
7 Morillon blanc or	23 Petit Game
Maurillon	24 Grand noir
8 Rochelle	25 Le Cathors
9 Teinturier	26 Chasseas Chasselas,
10 Negrier	dore Bar-sur Aube
11 Negrier echiquite	27 Cloutat
12 Raisin perle	28 Muscat blanc
13 Mornain blanc	29 Muscat rouge
14 Meslier	30 Raisin de Maroc
15 Rochelle vert	Cornichon blanc
16 Rochelle blonde	31 Corinthe blanc
17 Muscadet Malvoisie	

FOR THE AMERICAN FARMER.

Brandywine, (Del.) Dec. 21, 1819.

Friend Skinner—Some inquiries in the last number of the American Farmer, (38) have induced me to cast my mite into the treasury of information. Sidney makes inquiry, "What fallow crop can be substituted for oats," referring to the middle states. The practice in my neighbourhood, and for 20 or 30 miles north and west of this, is barley instead of oats, *spring barley*; there are two kinds cultivated with good success, the two rowed, bearing simply two rows of grain on the head, one each side of the stem, and the four rowed or more properly six rowed with a shorter head and full long beard; the last mentioned is most generally cultivated, having the best appearance in the field, the two rowed has a stiffer straw, and stands up better on a rich soil—the product is much the same on most soils, though in such as are highly improved the latter is preferred—it is also about a week or ten days later ripening, and much depends on the time of ripening—dry and cool is most favourable to either, after the growth is matured.

The culture is on ground that has produced corn the preceding year; the general practice is to cut up the corn close to the ground, and by setting it up in piles in shape of a sugar loaf, twisting a band of straw, and binding the top close—it stands till convenient time to husk, at the same time binding the fodder up in bundles with straw—many stack it up in piles after being

husked, and remove it to the cattle yard as wanted—but the better way is to bring it to the place where it is to be fed as early as possible, and stack in a way to preserve it from the weather, as it produces an abundance of fodder for large cattle. Thousands of bullocks that are driven from the westward as well as the northward, are purchased by the farmers that provide this kind of winter food—they seldom get hay till the approach of warm weather—corn fodder and straw from wheat and barley is the principal keeping till spring, then good hay for a month before they are turned out to pasture; at this time they are thriving and very soon become fat on the rich pasture of clover in bloom, mixed with other grasses.

I have digressed a little from the culture of barley, to show the intention of taking off the cornstalks, as a preparative for the early and effectual preparation for that crop, which is with us considered the best of all preparations for wheat by ploughing down the barley stubble, as soon as convenient after harvest, which immediately decomposes and becomes incorporated with the soil—another cross ploughing at seed time brings the land into a most excellent tilth. The manure is laid on between the two ploughings mostly—but some prefer turning it in with the barley stubble, which practice is gaining approbation very much of late.

Barley is sown as early as the ground will admit of ploughing in the spring, and many plough their stalk ground in the fall. Much is prepared already for sowing as early as dry enough in March—some was sown last year in February, and produced a good crop 30 bushels to the acre. The seed must be well covered by the harrow, and carefully rolled to pulverise and press down every clod, and leave a smooth surface to expedite the collection of the crop, if there was no other advantage; but there are other advantages as it compacts the soil about the grain, especially in light soils; affording more immediate nutriment to the young and tender fibrous roots, which are expanding in quest of that aliment so essential to a hasty maturity, and which cannot with the same facility be extracted from a clod, unbroken by the rolling process.

This crop is brought to maturity in 90 or 100 days, according to the site of its growth. Some of our elevated Brandywine hills, of a southern exposure and gravelly loam, ripen in 90 with the four or six rowed kind—the two rowed about 100 days on most high laying land. This grain has had as little fluctuation perhaps as any other crop in the price, having generally a home market, the average one dollar a bushel for perhaps fifteen years past.

From 20 to 30 bushels to the acre may be counted a fair calculation on a soil elevated, and free from stagnant water, if prepared by the culture of corn the year previous. The writer of this article knew an instance of an offer made to a farmer, of three hundred dollars for the rent of one of his fields containing eleven acres, then in corn-stalks; the time was limited from spring till harvest, (three months) with intention of taking a barley crop off in that time. The owner refused so tempting an offer and sowed it himself, and had a return of fifty bushels for

each acre, or five hundred and fifty bushels (of the two rowed kind.) That year the price was one dollar per bushel, the next season I bought his crop myself at \$1 12½, but do not know the product per acre. The following year I was informed his crop averaged fifty two bushels to the acre. This was an elevated ridge of land of a sandy loam, and nothing that I could remark different from the neighbouring farms.

The cultivation of barley as a fallow crop, is considered the most improving mode of managing land, and has become equal in rotation and as profitable as any other in the course.

From a grass hay turned down in Indian corn, then barley, and wheat sown after barley with grass seed, say clover and timothy, becomes a mowing crop the next year, producing from one to two tons to the acre—then pasture till frost, if not kept for clover seed that year, pasture the next season of a better quality being better matted in the bottom—the manure is generally run on for the wheat crop.

Barley requires one bushel and a half per acre, if the grain is large, or otherwise five ecks may be sufficient. The two rowed spreads more from the root by putting out a number of roots, from the product of a single grain. Thin sowing generally produces the heaviest grain, and when turning from the green to the yellow state at harvest, must be attentively observed, and cut before the green has entirely disappeared. As the heads turn down soon when ripe, and occasions waste in cutting if too ripe, especially with a scythe and cradle, which is the common mode, and by raking up into bunches loaded on the carriage by a three-pronged wooden fork made for the purpose, the prongs similar to the fingers of a cradle, to slip under each heap, and raise it on the carriage in a loose state, not being necessary to bind it into leaves—a rake or two to follow gathering every rattling head, which is readily done if the ground has been rolled at the time of sowing, or, if then too wet, may be done after it has become green over the ground, and advantageously, it has formed a crust by hard showers of rain, breaking this crust with the roller has a tendency to mould the young plant.

One observation should never be out of recollection, that is to avoid as much as possible muddling the grain in the heat of the day if very dry. As waste is unavoidable, I have found the sick scythe to be most expeditious and saving in cutting, and can be done through the heat or wet part of the day without waste, but be cautious with the rake and fork; when the straw effectually cured, it may be put together with considerable dew on it, either morning or evening.

The foregoing remarks may be of some use to such farmers as are unacquainted with the culture of barley, and whose soil and climate may be congenial to its culture as a fallow crop. How far south it may answer I know not, but 10 or 40 miles south of this place it has been used with success.

C. K.

P. S. My absence from home has made a mistake in my remarks on Hedging unavoidable, drawing shall accompany the next number on the finishing process.

The Editor, in committing the above to the hands of the printer takes occasion to remark, that it would be well if all writers on agricultural subjects would observe the manner in which the observations of our correspondent C. K. are communicated. There is a plainness and true farmer like simplicity in the style—and that indispensable minuteness in his descriptions which place the matter treated of, and every essential particular connected with it, completely within the comprehension of the reader, and leaves him without occasion to ask any further explanations about it. It is this conversation-like plainness of style, and careful detail of all particulars from the seed to the Harvest, which communicate to such writings the character of practical utility.—Those who undertake to describe and recommend particular modes and systems of agriculture, appear too often to write as if under the impression that the reader already possessed a tolerably perfect knowledge of the subject, in which case it would hardly be necessary to write at all.—These hints are not intended to have any particular application.—They are thrown out for general use. It was the conformity of friend K's letter to our ideas of the best manner of communicating agricultural knowledge, which reminded us to say thus hastily, what we have often thought to be worth mentioning.

Edit. Am. Far.

ON THE ACCUMULATION OF CREAM.

Baltimore, Dec. 22, 1819.

I will make a few additional remarks on cream.—My intention is, just to mention some other methods than Galvanism, for ensuring the greatest quantity of cream. The first is to select good cows. The kind of cows that give the richest milk are those of a red or brindled colour, and after them the dun, the white, and the spotted or pied. The black are universally known to give poor milk; however difficult it may be to account for the fact on physiological principles. It has been observed by some that the skin of black cows is drier or less oily than that of other cows. This may be so, but I cannot perceive that this circumstance will aid us in giving an explanation of the difference, unless so far as it may indicate the general difference in all the functions; but this is equally inferable from the dissimilar qualities of those secretions. As we cannot refer it to a principle which can be altered and improved, it must be attributed to a variety of organic structure, over which art has no control.

The second circumstance which influences the quality as well as the quantity of milk, is the manner in which cows are housed and attended. The difference in milk produce between a cow kept in a house during cold and wet weather, well littered and curried, and one of the same natural constitution, left shivering in the chilling rains of winter, is such as ought only to exist between different species of animals. The latter may give a few pints of sky coloured milk in a day, while the other will give perhaps as many gallons of a rich quality. As cases in point, I would observe that I know farmers in Virginia, who have from 20 to 30 milk cows, of which probably 15 or 18 give milk at a time, and who from this number cannot be furnished with butter enough for their own table. Facts similar to this exist not only in that state, but also in this and all the southern states. To the north we see the good effects of housing cows, though even in Pennsylvania and

the New England states, they are still far from the attentions that Europeans think proper to pay to these useful animals. In some of the best dairies in and near London, they not only curry and clean their cows daily, but also sand their stable floors as I have been informed. We know the vigour of the animal functions is increased by friction of the skin, and it becomes in those dairy cows a necessary substitute for muscular exercise. The quantity of milk produced by some of these cows I do not now remember; but it is so enormous, that it would not be credited in many parts of our country. I imagine sir, you could furnish some statement of this kind, from works in your possession, which would set many of your subscribers either to doubting or striving to improve. It would be gratifying to see some of them appear in the Farmer.

The third object of attention in order to increase cream is the food. This should contain much fatinnaceous, oily or saccharine matter.—slops of Indian meal, &c. sweet clover hay, or uninjured corn blades are among the best articles of this kind. Food in a liquid state is better than dry provender. Hence tea made of clover hay, will produce more milk than the same quantity of dry hay. The injured and innutritive food that is given to cows in many parts where farming is bad, combines with their exposure to the pelting storm, in making a scanty pittance, less. How is it possible that an animal can secrete a quantity of nutritious milk, when the food taken into her system, has but nutriment enough to supply in an imperfect way, the wants of a weak and emaciated body. Humanity apart, I have often been surprised at seeing in the neighbourhood of towns, so little regard to sordid interest, as is exhibited in the treatment of this profitable animal.

There is another mode which has occurred to me, as likely to collect a greater quantity of cream from the same portion of milk; that is to remove the atmospherical pressure. It seems highly probable that most of the cream would then rise while the milk is still sweet. For this purpose it would have to be put into large vessels, which might be so tightly covered as to admit of the removal of the internal air by a simple air pump, or double valved bellows. If this could be conveniently effected and would produce the expected result, the sweet milk might still be subject to the action of rennet, and afford common English cheese. All this project however, must be taken only for what it is worth; for as the elementary principles are formed and combined in a living machine, chemical or mechanical means can only take from the milk what it contains.—The best mode then is to improve the breed and the manner of keeping cows, in order to augment in any great degree the quantity of milk or cream.

FRANKLIN.

An important Agricultural experiment with Salt.
Communicated by Sir John Sinclair.

The rust* in wheat is by far the greatest calamity to which in an agricultural point of view, Great Britain is liable, as it originates from cor-

* In some districts it is called blight or mildew. It effects the straw and not the kernel as smut.

ruption and the growth of the fungus tribe, it seemed to me most probable that the use of saline manures would be found the most efficacious preventive. Many circumstances already communicated to the public, tended to justify that idea; and it is now in a great measure confirmed by an experiment that has just been reported to me by Mr. A. Robertson, at Almond, Myrehead, near Linlithgow, about 16 miles from Edinburgh. On the first of Nov. 1818, Mr. Robertson sowed 28lb of marine salt on 3 falls of sandy land, mixed with the seed of wheat. This is at the rate of 26 bushels per Scotch, or about 20 bushels per English acre. The crop was reaped on the 27th of August 1819, and the part salted produced at the rate of about three bushels per acre more than the rest of the field. The whole crop was much injured by the rust, excepting the part that was salted, which though not altogether free from it, yet the injury was very inconsiderable, and perhaps would have been totally avoided, had a greater quantity been made use of. Mr. Robertson thinks that it will be better first to sow the wheat separately, the salt to be sowed and harrowed in afterwards; for he found that the wheat did not spring up so well in consequence of its being sown in immediate contact with the salt.

Crushed rock salt will answer as well as marine salt, and the quantity should be varied from 20 to 30 bushels per English acre. It would be extremely desirable that the result of any experiment tried should be communicated to the public, that the question may if possible, be put to rest.

JOHN SINCLAIR.

Edinburg, 12th Oct. 1819.

THE FARMER.

BALTIMORE, FRIDAY DECEMBER 31, 1819.

The article presented in this number, discharges our promise to collect and spread before our readers, the most striking facts and views, on the comparative utility of oxen and horses, in the common operations of farming. Independently of the research it has occasioned, which, when we have leisure, we esteem a pleasure rather than labour. The engravings it has been found necessary to have executed in illustration of the subject, have cost the amount of six subscriptions, for a year. Besides the yokes we have had engraved an approved model of an ox cart, which will be presented as soon as we can find room for the introduction of some observations, which the cut will serve to explain.

This opportunity is taken to invite from our subscribers a strict criticism on what has been said in favour of the more general use of oxen. Our object is not to enforce by prejudice or favoritism any particular theory or system—we desire to investigate all, and to find out the best. It is considered a duty which every one owes to his fellow labourers in the same vineyard, to expose any defect which he may have discovered in the course of experience, either in the implements, or the modes of husbandry, which he sees in use, no matter how highly they may have been recommended.

The editor tenders his sincere thanks to those gentlemen, many of them personally unknown,

who have forwarded to him several addresses in pamphlet form, delivered before agricultural societies in different parts of the union. An early occasion will be taken to preserve them in the columns of the Farmer. So many gentlemen of talents and practical experience in all parts of the United States, have offered to our labours the benefit of their patronage, and good wishes, and communications, that we may now, as we think without ostentation, and as we hope, without disappointment, consider the American Farmer a *National Work on the Agriculture of the United States*. To make it more worthy of this distinguished character, nothing can better contribute than the publication of addresses delivered in different states; as they may be expected to present a view of the objects, the proficiency, the defects and the improvements of agriculture in all the various climates embraced by the whole union.

ON THE EXTERMINATION OF GARLIC.

We take great pleasure in copying, at the suggestion of a subscriber, the following remarks on the extermination of that odious pest, the wild onion or garlic, from Niles' Register, a work, in commendation of which, it were now superfluous to say any thing. We understand Mr. Niles has several complete files on hand—we wonder at this, since no good library is complete without a history of the public proceedings and events of one's own country: and such a history assuredly in part is Niles' Register.

Ed. Am. Far.

It is with great pleasure we give place to the following article. The editor respectfully invites communications on similar subjects—which shall always be promptly attended to; for he will be happy to make the *Weekly Register* a "focus to concentrate" the "rays elicited" by "well devised experiments" of intelligent gentlemen employed in agriculture. There is no branch of industry that can become so important to the public weal, or that is more susceptible of improvement.

Method of destroying wild garlic or wild onion.

MR. NILES.—The tumult of war having subsided, and the incidents which it furnishes no longer filling the pages of your useful Register; perhaps you may find room for some of those sober subjects which belong to the "dull pursuits of civil life." The first are certainly more brilliant, but the latter may be found more useful to the generality of mankind.

Agriculture, though it has not wanted panegyrist both in prose and poetry, has not obtained that aid from philosophy to which its importance entitles it, and which I am persuaded it is well calculated to repay. Theories indeed are not wanting, but they too frequently originate in the closet, and abound with plans of improvement, which are either impracticable in their nature, erroneous in principle or unadapted to the condition of those to whom they are recommended. In agriculture as well as other sciences, nothing can be relied on, but the cautious, patient, and persevering efforts of well devised experiments, and if your Register should become the focus in which the scattered rays elicited by such experiments are concentrated, it may become not less useful to the farmer than it is to the politician—and while it instructs us how to preserve or amend our political institutions, it may also teach us the humble, yet not less valuable art of improving our corn fields.

The present methods of cultivating the earth no doubt would admit of many amendations, but be this as it may, it is certain that our present knowledge would be abundantly more productive in its application, if we were acquainted with

the means of eradicating the numerous weeds which infest our grounds and prey, without any commensurate return and often with deleterious influence, upon the labour of the husbandman. In the foremost ranks of these noxious vegetables, stands the wild onion or garlic: so well known under these appellations as to render a botanical description unnecessary. This weed has, it is said, infested our fields every year since the first settlement of a colony of Swedes in the state of Delaware, who brought the seed there and sowed it to procure early pasture. It is generally supposed to be indisputable and has widely spread itself over Maryland and the adjoining states.—My first efforts to destroy this weed, afforded much matter of amusement to my good natured neighbours, one of whom roundly swore that "if it were all burned it would be re-produced by the ashes." Nevertheless, having observed with attention for some time, the economy and habitudes of the plant, I fell upon the most certain means of entirely extirpating it; and what is of primary consequence to all improvements in agriculture, the process is easy of execution and unattended with any unrequited expense even in the first instance.

The process consists, simply, in three successive fall ploughings, winter fallows, and spring crops, as follows: The first fall ploughing to be succeeded by a crop of Indian corn: after the corn is gathered the ground to be ploughed and sown with oats the succeeding spring. The common weeds and stubble which are left after the oats are gathered to be carefully ploughed down in the fall, and the ground again sown on the succeeding spring with oats and clover seed; or the clover seed may be reserved and the ground may be appropriated after the second oats crop to a wheat or rye crop.

As the garlic is killed in this process, not by the nature of the crops, but simply by the winter frosts, any other mode of culture which would afford the same exposure, would probably produce the same result; but I have preferred the above method, because the two first crops are in conformity with the usual practice, except that the ploughings are usually done in the spring, although it is generally admitted that without regard to any other consideration, the crops would be better from fall ploughing. It will probably be objected that two crops of oats in succession would too much exhaust the land—but experience is not in conformity with this opinion, on the contrary if the ordinary weeds which abundantly succeed the oats crop be carefully ploughed under by the usual help of a heavy chain, properly fixed to the plough beam and swingle tree, they will be found greatly to ameliorate the soil, and clover seed will take and grow after it surprisingly.

Although I have recommended a second crop of oats, I am not sure that the plan above proposed is efficient, but perhaps it might be sufficient to plough down the first oat stubble and sow with wheat, and this would differ from the usual mode of cropping only in time of ploughing for the two first crops.

If the insertion of this communication should comport with the plan of the Register, we farmers may perhaps claim your further indulgence. I am very truly yours, THOMAS E. BOND.

Bethesda, Hartford county, March 7, 1816.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norunt
Agricolus." . . . VIRG.

VOL. 1.

BALTIMORE, FRIDAY, JANUARY 7, 1820.

NUM. 41.

HORTICULTURE.

FRUIT GARDEN, FOR JANUARY.

From the American Practical Gardener.

General Observations.

In large kitchen gardens, espaliers for fruit trees, are generally introduced. These are hedges of fruit trees, trained up regularly to a trellis or lattice of wood work, which may either be made by driving stakes into the ground, or forming them of neat framed work; in either case, they should be from five to six feet in height, round the borders of the compartments of the kitchen garden, where they will be both profitable and useful. They produce fine fruit, and afford protection to the plants in the different apartments, around which they are placed.

Trellises are also occasionally used for wall-fruit, where the branches cannot be immediately nailed thereto; also in training wall-trees, in forcing frames, &c. and are formed according to taste, from four, five, six, seven, to eight, nine, or ten feet high. If the trellis is to be of framed work, it ought not to be made till the second or third year after planting. While they are young, it will be sufficient to drive a few short stakes into the ground, to which their branches should be fastened, in a horizontal position, in order to train them for the espalier. For directions for planting espalier and wall-trees, see March and October.

Pruning Apple and Pear-trees, in Espaliers, &c.

Apple and pear-trees being of the spur-bearing kind, and their mode of bearing similar, whether in espaliers, or trained to walls or board fences, one method of pruning will answer for all these kinds. They produce fruit, upon short natural spurs from the sides and ends of the branches, and the same shoots continue to bear for many years, increasing their quantity of fruit spurs as they advance in length; therefore, in pruning these trees, the branches and shoots are not to be shortened, but trained horizontally to the espalier, &c. until they have reached the extent designed, excepting irregular and superfluous shoots, and such suckers, arising up from the shoots which have been pruned, all which must be cut away, carefully preserving all the natural fruit spurs; then train in all proper branches and shoots, from four to five inches asunder, without shortening them. The branches of these

trees will, after the third year of their training, form short spurs, from half an inch, to one or two inches in length, and from these the fruit is to be produced. But if more lateral shoots are required, then it may be proper to cut off a fruit bearing spur, after which pruning, suckers will arise therefrom, one or more of which may be trained in the place, where it is wanted.

Apple and pear-trees being hardy, may be pruned at any time during the winter months, but the latter end of February is a preferable time, in the middle states, and the beginning of March, in the eastern states. Cherries may be pruned at any time, when the winter is mild. In the southern states, this month will answer very well, for pruning almost all sorts of fruit trees.

Cherries and Plums.

When the weather is mild, plums and cherries, raised against walls or espaliers, may be pruned. As they are also of the spur-bearing kind, they may be treated as directed for apples and pears, in No. 2, which see.

As it was observed in No. 2, that shortening the branches of apple, pear, plum, and cherry trees, was not always proper, however, in some particular cases, it may be done, as for example:

When the trees for wall and espaliers, are one year old, from the budding or grafting, which ought to have been performed as near the ground as possible, it will be proper to shorten them near the insertion of the bud or graft, which is called heading down the trees, in order to force out lateral branches; but this should not be done till February or March, cutting them down to three or four eyes, which will produce lateral shoots near the head of the stock, after this, the branches are to be trained, as before directed, taking care to procure branches, where they may be necessary, by a proper pruning. All the young shoots of the last summer's growth, besides what may be sufficient to train, as before mentioned, must be cut off close to the place, from whence they arise, leaving none but fruit-spurs.

Peaches, Nectarines and Apricots.

As these produce their fruit principally on the young shoots of the former summer, the fruit blossoms come directly from the eyes of the shoots, a full supply, therefore, of these must be reserved annually, in every part, to train in for bearing; besides these, preserve also a portion of the fruit-spurs on the two and three years branches; all such

spurs as are strong, and stand in suitable places, should be preserved, especially where they do not interfere with the yearling shoots. As the general branches and bearing shoots are to be trained to the wall or espalier, horizontally, about four or five inches distance all super-abundant shoots must be pruned out annually, always cutting off the weekly and decayed shoots.

Before pruning these trees, it would be proper to unbend all the young shoots, which were nailed up last summer, and also some of the larger branches, by which means they may be better examined, and the pruning performed more correctly.

In shortening the shoots, you should cut them to an eye, that is likely to produce a shoot for a leader, the ensuing season; these eyes being easily distinguishable from the fruit or blossom buds, by their longer, flat-tish form, the others being roundish, swelling, and turgid.

When one tree is pruned, bind it immediately, close to the trellis or wall, laying the branches horizontally, perfectly straight and parallel to each other, at the distance of four or five inches.

Gooseberry and Currant Bushes.

Gooseberry and currant bushes, bear not only on the one and two year old branches, but also on the several years' branches, generally upon small spurs rising all along the sides; and in each winter pruning, it will be requisite to cut out any decayed, or irregular branches, and after retaining a supply of the last summer's shoots, prune out the rest.

Let the gooseberries, be always kept thin of branches, and none of them suffered to grow across one-another, but all pruned to a regular order, so that the main bearers, may stand six or eight inches distant at the extremities, and generally keep the middle hollow.

Currant bushes should likewise be kept thin and regular, the general branches should be pruned to about six or eight inches asunder, taking out all super-abundant, irregular and cross branches, as well as old decayed shoots. See further in October.

Protecting the roots of newly transplanted Trees.

The new planted fruit trees, should be protected from the frost, by laying good litter on the surface of the ground, over their roots, particularly the choicest of the stone fruit kinds.

Forcing early Strawberries.

About the latter end of this month, begin to make a hot-bed to raise a few early strawberries: those which are planted now therein, will produce fruit to gather in March, or April.

But a tan-bark hot-bed made in a bark pit, defended with a proper frame and glasses, would generally be more successful in producing early fruit.

The strawberry plants should be potted in September, as there directed.

If planted in a hot-bed, let them have air at all opportunities possible, refresh them occasionally with water, and treat them as directed for cucumbers, &c.

Where there is the convenience of the forcing house, &c. early strawberries may be raised in great perfection, with but little trouble.

Forcing fruit trees for early Fruit.

Where you have the advantage of forcing houses, hot-walls, &c. furnished with fruit trees for producing early fruit, as cherries, apricots, peaches, &c. prepare for it now, by shutting the glasses close, and about the middle of the month make the fire, and where there is, in the forcing department, a pit, in which to make a hot bed of tanner's bark, or hot horse dung, make the hot-bed first, and in a fortnight's time kindle the fire.

Forcing Frames.

A forcing frame is a kind of glass case, or light building, fronted with glass frames, in which to force flowers and fruits to early perfection, as also to preserve various kinds of exotic plants, during winter, in our climate. The erection of such a frame, should be fixed, fully to the exposure of a south sun; the length, ten feet, (or any other length) the width, from six to fifteen, and from five to ten feet high, having an upright back of wood, or brick, and a front with upright glass work, six feet high, from the top of which a glass roof, is carried, in a sloping direction to the top of the back or main wall, designed for the reception of various sorts of flower plants, small flowering shrubs, dwarf fruit trees, esculents, &c.

These frames may be employed to advantage in the vicinity of large towns, for forcing early plants for market, and by them, various kinds of esculents, &c. may be obtained in February, March and April, which in the open ground, would not be matured till May, June or July.

In these forcing frames may be introduced pots of strawberries, kidney beans, roses, honey suckles, jasmines, and other flowering shrubs; carnations, wall flowers, stock gilliflowers, &c. &c.; also curious annuals, and other rare plants. You may likewise have several sorts of dwarf fruit trees, as May-duke Cherries, peaches, nectarines, figs, apricots, &c.

The following is an explanation, under separate heads, of the general construction of each sort of these frames, according to the materials used, viz: 1, Dung heat. 2, Bark bed heat. 3, Fire heat.

1. *Dung heat.*—This is not only the most simple, and cheap kind of forcing frame, in its construction, but also considerably the easiest to manage in working, with respect to obtaining a supply of heat, as it may be forced by repeated linings of hot stable dung, against the back and

end. This frame is formed with an upright back and ends, of pine planks, the length from ten to twenty feet or more; the width from three to five feet, and five or six feet high. It should be made of two inch pine plank, tongued or grooved, and closely joined, so that no steam, from the dung, may pass into the frame, raised six or seven feet behind, and but twelve inches in front, both ends to be neatly sloped from the front to the back; the glass-work to range from the upright in front, sloping upward to the back wall, to about a foot width at the top, where the ends are to rest upon a suitable frame of wood-work; and bars, three inches wide, must be fixed from the back to the front for the support of the lights, as in common hot-bed frames, and the top of all to be boarded as close as possible; within side may be two or three ranges of narrow shelves, along the back and ends, for pots of small plants, and the bottom levelled, on which to place pots of larger sorts.

From the foregoing an idea of the construction of a dung-heat forcing frame, may be formed, which may be arranged or altered to suit taste or convenience. This kind of frame may be used with advantage where dung can be easily obtained.

The season to use this frame is January and February, and may, in the middle states, be continued till the latter end of April, for the forcing of fruit trees the beginning of February, is time enough, but the plants which are intended to be forced, may be protected from the severe frosts, by the frame, but at other times let them enjoy the full air, till they are to be forced.

When the plants are placed in the frame, agreeably to your prospect, put on the lights, and having a sufficient quantity of fresh stable dung, prepared as for common hot-beds, let it be piled up, close against the back and ends, a yard wide at bottom, drawing it gradually to a foot width at the top of the frame, let this lining be of a regular slope, that the wet may run off as much as possible, and as it settles down, add fresh dung, so that the lining may be kept always to the top of the frame.

In three or four weeks the heat must be renewed, by a lining of fresh dung, in the same manner. When a dung-heat forcing frame can be made, of such capacious dimensions, so as to admit of a substantial hot bed of dung internally, to produce an increased degree of heat, it may be used to greater advantage in many instances.

2. *Bark Bed-heat.*—This may be properly called, a forcing house, and it is worked by the assistance of a tanner's bark hot-bed, formed in a pit, within side the whole length.

This frame may be constructed either of wood or brick work, with an upright front of glass, six feet high, and a sloping roof of glass, ranging from the upright front to the top of the back wall, the glass work, in every part, should be made to move on and off, as well as to slide backward and forward, to give air, &c. and at one end near the back wall, a door to enter; and within side a pit for the bark bed, three feet deep; part sunk, and the greater part raised, continued the whole length and width, except a foot and a half alley.

The pit may be filled any time before February; the bark will support a growing heat three

months, and if then stirred up to the bottom, will continue the heat two months longer.

The heat of the bark-bed will warm it internally, so as to forward any sorts of hardy flowers and fruits, to perfection, at an early season.

Fresh air must be admitted, at all suitable opportunities, by sliding some of the glasses, in the day time, keeping them close at night, and covering them with mats, or closing it at night, with sliding shutters and then mats.

3. *Fire-heat.*—A forcing frame of this kind, is worked by having a stove or stoves behind, from thence communicating the heat, by internal flues, running the whole length of the back wall, in three returns one above another and continued in a flue, round the front. A frame thus constructed, will answer not only for ripening fruit at an early season, but forwarding such plants as require art to protect them, &c.

This forcing house must be formed of brick work, i. e. the back and ends; the whole front must be of glass, the length may be twenty, thirty, forty feet, or more, the width ten or fifteen feet, and height, eight or ten. The number of stoves must be proportioned to the heat required. The whole bottom space, within this frame, must be of rich garden mould, at least two spades deep.

The season for making the fires, in order to force trees and plants, is any time in January, or the beginning of February, for if the trees are forced too early there may be some danger of their failure, as in very severe weather, the air cannot be admitted so freely as to impregnate their fruit.

The fires are to be lighted in the stoves, every afternoon, about four or five o'clock, and if kept up till ten or eleven, will sufficiently warm the internal air of the house, till next morning, when if very cold, frosty, or cloudy damp weather, a moderate fire may be made occasionally. Fresh air must be admitted in fine days, and as the days grow longer, and the power of the sun greater, allow a greater proportion of air. Water the plants when necessary. Hot walls, or fire walls, may be with propriety considered as the last, and are principally designed for forcing the larger standard of fruit trees, &c.

Vineries.

Buildings of various kinds, for forcing vines, have been constructed for this purpose, for ripening the choice kinds of late grapes. When they are constructed as the fire heat frame, (last art.) and a lattice, fixed at ten or twelve inches from the black flue, to which the vines should be trained. Sometimes the vines are planted on the outside of the budding, and introduced through holes, into the front, as low down as can be done with convenience. They are also, by others, planted inside, near the front, and trained up, to neat trellises, close under the sloping glass roof.

Southern States.

In the Southern states, where the winter frosts are not severe, apple, pear, peach, nectarine, apricot, cherry and plum trees, for both espaliers and standards, also almonds, quinces, gooseberries, and currants, may be planted, as well as the hardy fruit bearing trees, in the orchard. Each of the above kinds may be pruned, see March and October.

ORCHARD.

Situation of an Orchard.

The most suitable situation for an orchard, is a sloping south east aspect, receiving the influence of the morning sun, and sheltered by its slope in some measure, from the pernicious effects of northerly, and more particularly from the blighting north east winds. Rich strong loams, with a portion of oyster shells, or other calcareous substances, will be advantageous. All dry rich lands will admit of flourishing apple trees, and it is a general observation, that shelly land, capable of producing good wheat, is an excellent soil. Newark, in the state of New Jersey, is famed for its apples and cider; the soil around, is of a red shelly kind.

2.—*The Trees of an Orchard.*

As the orchard is designed to furnish an ample supply of the most useful kinds of fruit, it is therefore appropriated to such, as are termed standards, such as apple, pear, plum, cherry, peach, apricot, almond, and nectarine trees; also medlars, mulberries, Spanish chesnut, and English walnut. The two last are more particularly servicable, to be placed as boundaries to large orchards, as they will afford some protection to the other trees, from the keen, cold, piercing winds and frosts.

As the apple is the most important fruit, and uniformity is to be attended to, the most suitable distance for this tree, which is forty feet in the rows, and forty feet row from row, may be considered as a rule, although when the whole orchard is of peach trees, twenty-five feet would be sufficient.

Of the varieties of the apple, William Cox, on fruit trees, enumerates 133 kinds, raised in the United States, but as some persons prefer the natural fruit in their orchards, were the seed to be sown, the trees allowed to fruit in the nursery, and the good kinds only to be planted in the orchard, the variety would be without bounds; the middle states are particularly suited for this purpose, for if the seeds of natural fruit are planted, few would be wildlings, and many would produce valuable fruit of new kinds. The same author enumerates eighty-eight sorts of pears.

The variety of peaches are stated at thirty-eight. Apricots, six kinds, plums, eighteen kinds; cherries, twenty sorts.

3.—*The requisite attention to be paid to the trees.*

As the trees are sometimes subject to be injured by moss, to remedy this, scrape it off with a round iron scraper; also dig round the trees, and bring fresh mould to them. When found necessary, thin their branches, cut off all dead or irregular shoots, as well as those which appear to be cankered, and in a decaying state, all of which should be cut off to some healthy leading branch.

Be particular to use a saw, for taking off the limbs and branches, that are too large for the knife, and smooth the cut parts with a drawing knife, which is the most suitable for large amputations.

In pruning, a good general rule is, never to shorten the branches, unless to improve the figure of the tree, and then to take them off very close, at the separation, so that the wound may heal well and soon. If the wound be very large, cover it with tar, or thick paint; if small, fresh cow-dung will be the best plaster, secured by a bandage of linen.

From the National Intelligencer.

GRAPE VINE,

On the cultivation of the Vine, the Fabrication of Wines, Brandies, Rectified, Spirits of Wine, Cream of Tartar, and Dried Fruits, and Fresh Grapes, for Food and Diet—A RECAPITULATION.

No. VIII.

The importance of this culture is proved by the facts that the celebrated statesman, minister, and philosopher, Mr. Chaptal, declares it to be the second object in the agriculture of France, though it occupies but 2,000,000 of arpents of

land, which are less than 2 000,000 of our acres.

The whole amount of the productions and fabrications of the vine in France, is estimated at 100,000,000 of dollars. The soil which is generally used, and which produces the finest wine, is of inferior character and quality, often unfit for grain and cattle farms. The vine country of the United States, as held, in extenso, under the Louisiana treaty of A. D. 1803, or as proposed by our government to be modified and reduced to narrow limitations by the Florida treaty of 1819, is much larger than that of France, the most extensive and valuable vine country owned and cultivated by any one people of the world. The experiments made in Indiana, Kentucky, North Carolina, South Carolina, and Cohauilla, from 26 degrees north latitude, to 38 degrees 40 minutes in North America, prove the natural and present capacity of all that region, of nearly nine hundred common miles from south to north, for the production of the grape, as a crop; and as our country shall be cleared of its woods and forests, and drained in its great and small swamps, marshes, and alluvial grounds, the sphere of the vine will be improved and extended to one thousand miles.—The region of the cotton, in its utmost northern extension, seems fairly to promise encouragement to the cultivator of the vine. Hence St. Mary's and Talbot, in Maryland, Sussex, in Delaware, Cape May, in New Jersey, and the banks of the Rappahannock, Virginia, which, in the wars of 1775 and 1812, used their own cotton, are likely to gain by the application of their refuse lands, hills, ridges, sands and gravels, to the formation of vineyards, which do not, like rice, indigo, and sugar, require men of colour. The success of the vine in Judea, (five to ten degrees south of the Orange Groves of Macedonia, Nice, Portugal, Spain, and Provence and offers their vineyards, (with our North American Cohauilla,) proves irrefragably, that no part of the United States is too hot for the vine. Many errors occur in new cultivations. The papers of industry. The north of Germany, Silesia, Sweden, "The Friend to National Industry," No. 1 to den, Denmark, England, and the Netherlands, 8, in November and December of this year, only refrain from the vine, because they are too are intended to prevent some of these. The far north. So the northern British provinces of employment of rich, bottom, and flat lands, and America will never cope with us in our vine of stable manure, are shown to be against all the advices of the experienced vine cultivators of Europe. The republication of these papers from the National Intelligencer, the Philadelphia National Recorder, and the Baltimore Farmer's Gazette, in some of the newspapers of all the states from 39 degrees north of the Gulf of Mexico, would be a useful incitement and opening of the subject. It is respectfully suggested, that "a joint committee of agriculture," if appointed by the Senate and House of Representatives of the United States, could not take up a more important subject as far as memory at present serves. One hundred millions of dollars from our two millions of worst lands, in the extensive country south of Pennsylvania, is a most important object, at this time, when our other crops are failing. If that vast southern district and population employ themselves on this new branch of culture, the states north of Maryland, Delaware and Virginia, will have to themselves so much more of the grain, grass and cattle farming. Those who raise vines, canes, cotton, rice, indigo, tobacco, figs, prunes,

dates and olives, cannot raise bread and meat, but must want to buy them of those, who cultivate grain and cattle farms. The interest of New York and the north, though indirect in the proposed southern vineyards, is as plain as the direct interests of the Carolinas, Georgia, the states formed out of Louisiana, Virginia, Kentucky, and Tennessee, in those vineyards; or of Indiana and Illinois.

This cultivation, by collecting white families on very cheap and healthy lands, in a wholesome culture, chiefly with the plough and harrow, will multiply white population in the south, and render the gradual abolition of slavery more early, safe and practicable.

It is certain that the culture of the vine and the fabrication of wines is compatible with every industrious and successful prosecution of agriculture for general purposes. It has been considered in Europe, that no country more abounded in the necessaries for human comfort and subsistence, than the dominions of the emperor of Germany in 1794, or Austria, Hungary, Bohemia, and Lombardy. Yet these were all profitable wine countries. So of Switzerland, where grass lands irrigated, have been sold at one thousand dollars per acre. So of Piedmont. So of France, in which wine and brandy are made, in all its old provinces, except Artois, Picardy, Normandy, and the middle and northern parts of the two provinces of Bretagne and Maine in those northern provinces, the grape, unfit for wines, is elegant and fine for sustenance and for diet. In the other twenty-five of the ancient provinces, the vine and the fabrication of wines generally prevail, occupying grounds of the extent of less than half of New Jersey, yielding a gross yearly income of one hundred millions of dollars. Yet degrees south of the Orange Groves of Macedonia, wool, iron, silk and flax, bread and meat, building, Nice, Portugal, Spain, and Provence and offers their vineyards, (with our North American Cohauilla,) proves irrefragably, that no part of the United States is too hot for the vine. Many errors occur in new cultivations. The papers of industry. The north of Germany, Silesia, Sweden, "The Friend to National Industry," No. 1 to den, Denmark, England, and the Netherlands, 8, in November and December of this year, only refrain from the vine, because they are too are intended to prevent some of these. The far north. So the northern British provinces of employment of rich, bottom, and flat lands, and America will never cope with us in our vine of stable manure, are shown to be against all the advices of the experienced vine cultivators of Europe. The republication of these papers from the National Intelligencer, the Philadelphia National Recorder, and the Baltimore Farmer's Gazette, in some of the newspapers of all the states from 39 degrees north of the Gulf of Mexico, would be a useful incitement and opening of the subject. It is respectfully suggested, that "a joint committee of agriculture," if appointed by the Senate and House of Representatives of the United States, could not take up a more important subject as far as memory at present serves. One hundred millions of dollars from our two millions of worst lands, in the extensive country south of Pennsylvania, is a most important object, at this time, when our other crops are failing. If that vast southern district and population employ themselves on this new branch of culture, the states north of Maryland, Delaware and Virginia, will have to themselves so much more of the grain, grass and cattle farming. Those who raise vines, canes, cotton, rice, indigo, tobacco, figs, prunes,

The grape has been manifestly intended by Divine Providence, as a food and a diet for the inhabitants of warm climates, and for more northern people, in the hot season. So of its excellent vinegar, salt or tartar, and dried fruit. The French and Spaniards keep their fresh grapes as we keep apples; and we constantly import fresh or undried European grapes into all our seaports where they are sold for 40, 50, and 60 cents per lb. They might be sent from the southern states

to those of the Chesapeake, like their sweet and sour oranges.

The methods of procuring seeds, cuttings, vines, books of instruction, vine dressers, information as to tools, implements, utensils, presses, and buildings, can be collected from many French, Spanish, Portuguese, German, Italian, and English books, which should be sought in our stores and libraries, and imported by booksellers, individuals, travellers, and library companies.

A Friend to National Industry.

Philadelphia, Dec. 10, 1819.

FROM THE AMERICAN WATCHMAN.

New Castle Hundred, Aug. 28, 1819.

To Dr. David Stewart, President of the Agricultural Society of New Castle County.

SIR—As our stock of practical agricultural information must depend upon individual contributions, I hope as the 'widow's mite' was well received, the trifle I now offer may be acceptable also.

When I became a member of the honourable society over which you preside, it was in the hope and expectation of being benefited by the instruction I should receive from the observations and experience of the industrious and enterprising agriculturists composing that society, being collected as it were into one common fund, upon which, as a nerdy and inexperienced member, I could draw at discretion as occasion might require; paying an interest to the society, by giving them a faithful account of such observations and discoveries as I may have made upon the information so obtained, or otherwise.

The only thing I have to offer in that way at present is on fall ploughing, as a winter fallow for a corn crop; and perhaps there is no periodical operation in preparing the ground for a crop more deserving attention; it has been recommended frequently as an almost certain preventive against the ravages of the cut worm, in corn; and philosophical theorists tell us that land turned up to the winter frosts and snow, will collect nitre (from the atmosphere) which they say is the vital principle of vegetation.

I commenced farming where I now live, in the spring of 1817, on a kindly soil, though most miserably broken down by hard usage and neglect. My ground was flushed up in April, and corn planted in squares of four feet six inches in the first week in May. The cut worm was so destructive in that year, that we replanted the third time—the season was unfavourable, and I had a very light crop.—D. sirous to avoid a like disappointment, and to give the ground the advantage of collecting nitre, I ploughed the field intended for the next year's crop in November. The injury done by the cut worm to corn generally was small in 1818, compared with the preceding year; to nitre it was trifling—the season proved favourable, and considering the reduced state of the land under cultivation, I had a much better crop of corn than I could have expected, without manure—the ears were large and fine, and so early made, that I commenced cutting it off the ground the 15th September, thus having all the fodder without injury to the grain, either in quality or quantity. Salt bearing in mind, the cut worm and the nitre, and believing from my un-

expected good crop this year, that much benefit had resulted from the fall ploughing, I determined to adhere to the practice, and accordingly gave my intended corn ground for the present year, a pretty deep ploughing in the latter end of last November, as nearly at right angles with the slope or declivity of the ground, as the form of the field would permit—thus it laid open and exposed to the winter frosts, which completely pulverised the sward—the rain and melted snows were readily and entirely absorbed by the soil and clay below the reach of the plough, and I observed the surface become mouldable much earlier in April, than those lee fields which my neighbours were breaking up or flushing for their corn. Between the 16th and 20th April, I had my corn fallows well harrowed, and by the 30th, had them cross ploughed, then harrowed again, and on the 1st of May, when we began running out the rows, the whole field was in a state of preparation as mellow and fine as a salad bed. We run the first furrows about the same depth to the ground had been ploughed, exactly four feet six inches, not quite so deep as the first, leaving a little loose mould in the bottom of the first furrow to plant upon, which we did the 4th and 5th May—4 grains in each hill, without deviation. The corn came up well—no cut worm appeared to its injury, and on the 2d June, we gave it two strokes on each row with the fallow harrow, and a light dressing with the corn rakes.

The ground was extremely mellow and fine, and quite clear of clods. The next week I reduced the stalks to three in each hill, and plastered it. About the middle of June, the neighbours all around, had been sometime at work in their corn fields, some with ploughs, and other with fluke harrows, raising such a dust, that at a distance any one would have thought they were sowing plaster broad cast on their cornfields. I thought I would be doing something too, though my corn looked well, and I could not see that it wanted any thing, the ground being clean and mellow. We, however, went to work with the fluke harrow, but it so disfigured the surface of the ground, and turned the moist mould up to the hot sun and wind, that I could not bear the operation—the fluke harrow was dismissed, and on the 14th and 15th, run the fallow harrow over it again, across the first harrowing—gave it a light dressing with the corn rakes, and the whole field looked as smooth as an onion bed. The 30th June, at night, we had a copious shower, which put the field in fine order for working. On the 1st and 2d July, turned a furrow to the corn and gave it a hoc dressing—thus it lay until the 15th, when we had a light shower in the evening, and the next morning we went into the cornfield, with the fluke harrow to fluke down the middles, but it left the surface so rough that I took out the three flukes and put in seven square teeth taken out of the fallow harrow, with which we narrowed down the middles lengthwise twice in a row.

The 26th of July we had another light shower in the afternoon; on the 27th and 28th, sowed and cross-harrowed with the seven toothed harrow, two strokes in a row, and so laid it by the ground quite smooth and level, except a small rise at each hill, left by the harrow passing on the different sides at about six inches distant from the stocks; and my corn I think I can say

with truth, has suffered very little from the drought—when that of my neighbours was of a bad colour, and shrivelled and twisted, as though scorched with fire, mine was smooth, glossy, and preserved its deep green colour through the driest and hottest weather, and I think is full as good a crop as I had last year.

I now return to some observations on fall ploughing, and the advantages I have experienced from a winter fallow in raising a corn crop.—1st. It turns up the grass roots, &c. to perish and commence decomposition at an earlier period than if left in a state of vegetable life for a spring ploughing to destroy. 2d. It exposes the sward to the frost, which will in the course of the winter pulverise my stiffest ground, and render it fit for the plough and narrow to work in earlier in the spring than the unploughed ground will be, and thus give a mellow mould to plant and work the corn in. 3d. The corn will require less work in the busy season—a fall ploughing. I consider equal to two summer dressings of any kind, on the score of keeping the ground clear and mellow. 4th. I consider clods the greatest enemy corn can have, either on the surface of the ground or below it. Those below the surface oppose a resistance to the tender corn roots which they cannot overcome, and are obliged to make their way through the interstices or openings which continually exist between them, in which if they do not perish, at least they cannot thrive. Those clods on the surface absorb the dews and light showers, and give them again to the winds, thus depriving the earth of its natural supply of moisture, the effects of which upon young corn must be evident to first view. 5th. Last, but not least. Ground well ploughed in November in our soil, will absorb and let down into the loam below, all the rains and melted snows during the winter and first spring months (none run off my fields last winter nor spring) thus providing a reservoir of moisture immediately under the roots of the corn, which will rise to the surface through a mellow soil, and supply them regularly with moisture during such a drought as we have experienced this season, if it be not dissipated nor destroyed by injudicious and unnecessary working the corn in hot, dry weather.

I am, respectfully, yours, &c.

PHOS. MENDELL.

FOR THE AMERICAN FARMER.

PROCEEDINGS OF THE AGRICULTURAL SOCIETY OF ALBEMARLE.

ON THE VALUE OF THE COBBS OF CORN
As a Food for Stock.

No. 5.

[Read, May 10th, 1819.]

Ridgeway, May 1st. 1819.

DEAR SIR,—More than twelve months ago, I was conversing with our esteemed friend and worthy member John Patterson, upon the value of the corn cobb, ground up with the grain, as a food for stock. He suggested the idea of testing its nutritive strength by the process of distillation, which I undertook to do, and furnished him with the result, with a view of having it communicated to our Society. But he mislaid my letter, previous to his removal from Virginia, and as the experiment was very flattering, I venture to detail it to you, for

the Society's information. It was carried on under the eye of an experienced and intelligent distiller and was as follows.

Ten bushels of the corn and cobb ground together were taken, which weighed 367 lbs, and ten bushels of pure corn meal were taken, which weighed 400 lbs. They were both brewed or mashed on the same day and distilled separately, with great care and accuracy. The product of the pure corn was 18 gallons, and the product of the mixture, of corn and Cobb, was, 13 gallons of spirit, each of the same degree of proof. Now, it is generally agreed, that the Cobb constitutes about one half of the bulk of corn, in other words, we give two measures in the ears for one sheilded, and the cobs are either used as fuel, or thrown away as of no value.—If this were true, the product of the mixture then, should have been only 9 gallons, which is the half of what the pure corn produced. But 13 were obtained, four of which, must of been of course, extracted from the cobs; or if we estimate its nutritive power by the quantity of spirit, it is clear, that when-ver we shell ten bushels of corn, and throw away the cobs, we throw away a portion of food, equal to the difference between 9 and 13, or nearly one half.

As it relates to the respective weight of each, the difference in favour of the mixture, is still greater, the pure meal being more than three pounds heavier in the bushel, and I am inclined to think that the product of the mixture, would have been greater if the experiment had been made earlier in the year, before the cobs had lost much of their substance by evaporation. (My experiment was made in the month of March). The distiller mentioned an important fact, that occurred in the process. He found that the fermentation of the mixture took place much sooner, and was perfected a day or two earlier than the other. His expression, was, that it mixed much easier, and better than anything he had tried before, and which he accounted for by supposing that the particles of the Cobb being lighter and coarser than those of the grain, but mixed together, prevented too close and heavy a deposition of the mass at the bottom of his brewing tub.

These facts are particularly worthy the attention of distillers, and I think, are perfectly satisfactory, as to the value of corn cobs in the production of spirits. Whether they are equally so in relation to their value, as a food, is left to the chemists to determine. We are aware that the saccharine particles, or those yielding spirits, are not the only constituents of nourishment. We know that oily and mucilaginous particles are also component and necessary parts of food. But which preponderates, or in what proportion to each other, they are required to exist, in order to constitute a healthy food I do not pretend to know. It is certain however, that the two latter do exist, in some degree, in the cobs of corn; and since the experience of all who have tried it, concur in reporting it to be the most healthy mode of feeding corn, perhaps it will not be unfair to infer, that they maintain a due and proper proportion to the spirit. If so, the experiment must be satisfactory, and the conclusion I have drawn from it undeniable.

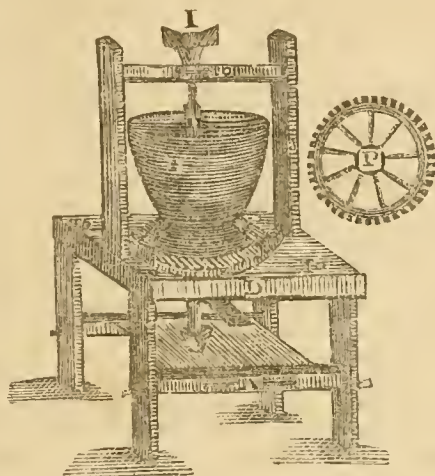
But besides the actual economy, there is another advantage in this way of feeding corn, which ought to engage the attention of every farmer. It is notoriously true, that the unground grain of corn, is eating to the stomach of all animals and of difficult digestion, producing cholera, and other inflammatory disorders, particularly in horses, which tend greatly to shorten their lives. They are deprived of the benefits derived from the stimulus of distension, (so necessary to the proper health of all animals,) by being unable to eat a sufficient bulk to produce it before they become gorged. But when ground into meal, along with the cobs, and mixed with cut hay or straw of any kind, this necessary distension is produced, without any danger of disorders arising from eating too much. It is now eight years since I have been in the habit of feeding corn in this way and out of six to ten horses, which I have annually

kept in that time, there has been but one case of sickness among them, which was a slight cholera.—Indeed since I have lived in this country, which is now eleven years, there has been but one death among that description of stock on my plantation, and that occurred to a mare with a young foal, in a distant clover-field without having been fed for many weeks, and which took two or three days before it was known; this uncommon health of my horses, I attribute in a great degree to the use of ground food.

Yours with esteem and friendship,

P. MINOR.

General COCKE, Vice-President of the }
Agricultural Society of Albemarle. }



A To raise or lower runner, T Bolts for Frame,
B Step for spindle, G Screws to bolt down
C Spout, Hopper,
E Hoop, S Uprights,
D Bed for Mill, H Spindle,
RO For spindle to run in,
I Wingcoupling for top of Spindle and upright shaft.
P Instead of I.

York County, State of Pennsylvania,
May 5th, 1819.

This is to certify, that I the subscriber, have erected one of the machines for breaking and grinding corn with the c b, invented by John Rogers of Baltimore, and Joseph Demund, of New Jersey: Certifying that the said machine, has in my mill ground at the rate of 12 bushels per hour with ease, fine enough for hominy.

GEORGE LOUCKS, Miller.

The Art of making good Bacon.

In the catalogue of "good things," good bacon deservedly holds a conspicuous place. In this part of the country it is a standard dish, which never elays the taste, and never fails to be treated with very pointed respect and attention wherever it makes its appearance. Whatever therefore is calculated to diffuse the knowledge of making it after the best manner, must be well received; and we feel warranted in saying, that he who pursues the following process, so well described by our much valued correspondent SYLVANUS, will be sure to succeed.

To the testimony of Sylvanus we can add ours, that neither brine, or sugar, or molasses are of any use or advantage. Last year the Editor was prevailed on to increase the quantity of saltpetre, putting 4 pounds to 1500 weight; but he inclines to think it had a tendency to make the meat very hard immediately after cooling; he has therefore returned to the use of the quantity recommended by Sylvanus, whose observations convey several new suggestions, and reasons for old practices. As to the necessity of any brine whatever, even what gathers in the bot-

tom of the tub, from the melting of the salt alone, the Editor will here mention what he has often heard: that the late Jacob Gibson, of Talbot county, celebrated for his good bacon, as for his general good management, had holes bored in the bottom of his meat tubs, to let even that brine pass off. It, however, the reader will exactly pursue the recommendation of Sylvanus, in the selection of his meat, and the process of curing, he need not fear the result.

Another word in vindication of the rights of the housewife.—We shall always impartially claim from the ladies the performance of duties properly within their province; but we shall as studiously resist the imposition of burthens which are alike incompatible with their position in the domestic circle, and the delicacy of their constitution. We mean then to say, that the superintendence of the cutting up, and salting and smoking the meat for the year's family consumption, does not properly belong to the lady of the house; although we know, that, time immemorial, this task has been, in many neighbourhoods imposed on them. It is a heavy, coarse, laborious operation, which ought to be done under the eye of the master. It is his duty to prepare every thing for the hands of the cook, and it is not until every thing for the table is placed in the kitchen, that the wife should be called on for her attention.

Editor of the Am. Farmer.

FOR THE AMERICAN FARMER.

Elmwood, December 29, 1819.

Mr Skinner,

As I am blockaded by the snow to-day, I thought I would turn my attention to economics, and say a few words about hanging up my bacon. This is an article of great importance to us country gentlemen who live at a distance from the butcher's stall; and as my bacon has been often praised by good judges, I thought I would give you a paper containing my practice in curing it, for the benefit of those less experienced. In December I procure hogs (without any regard to moonshine) weighing about 150 lbs. each, avoiding smaller, more than larger sizes. I insist on their having been corn-fed for five or six weeks. If I cannot get the assurance of a man of truth, I trust to my own judgment. The disposition of the fat when not frozen will give a pretty good criterion, if it should appear hard, and crack about the kidneys like beef suet into small squares. I avoid such whose fat is more tenacious and inclined to transparency, adhering to the fingers, and bearing the complexion of lard.

If the lard when tried and cold is hard and white, there will be no danger of deception from any food that we are now acquainted with, and we may rely on its being corn-fed pork: what ruta бага may do I know not.

I know of nothing in the cutting up the meat that deserves much attention, except to keep parts together that require an equal time for curing, so that those who cut many of the ribs with the shoulder, do an injury; for the shoulder requires three weeks salting and smoking, whilst the ribs require but two; I therefore cut the shoulder as short as possible, and the middling, of course, as long as it admits.

To every 1000 lbs. of meat I put three pecks of salt, and one third or half a pound of saltpetre. I prefer mixing half ground alum salt with Liverpool, for in very soft weather the Liverpool will run off almost too quickly, and in very dry, cold weather, the alum salt is too tardy, i. e. not ultimately to cure, but for the time allowed by me,—so they correct each other.

This composition is to be well rubbed on, and then sprinkled thickly on the cut surface of the meat. There is no danger of over-salting from quantity, it is length of time that has that effect. The meat is now to be laid in good casks, the hams and shoulders first, skin downwards, and then the middlings and smaller pieces.

In two weeks the casks are to be emptied and all but the hams and shoulders removed, being salted

sufficiently; whilst those larger pieces (the hams and shoulders) are to be re-packed, putting those which seem least salted lowest among the brine. A change of position is absolutely necessary, for the pressure is so great, that the brine will not pass equally through the meat if it is not once turned. In three weeks from the salting the shoulders are to be removed, and in four weeks the hams. Every piece of pork on taking out of salt should be cleanly washed, by dipping a cloth in hot water, and washing off the salt brine and dirt on the pavement, and not into the tub, least that become brine, and thus you would give the meat a second salting instead of washing off what was loosely adhering. This washing promotes the drying of the meat, and further tends to equalize the saline flavour through the meat, and should not be neglected.

It will be perceived that I have not mentioned the article sugar, so much esteemed by many. Ten years experience with it, and ten years experience without it has fully corrected my judgment on this article. If any person will try two parcels, one with and the other without sugar, he will find the following result; That his bacon cured with sugar will be deprived of the fine red colour two months longer for that addition; therefore it is certain that it interferes with the saltpetre, and if the saltpetre is of any service the sugar prevents that, and I presume it adds nothing to compensate. The fresh mawkish taste of the saltpetre is admirably adapted to temper the excessive sapid flavour of common salt, whilst the beautiful red colour is highly pleasing to the eye. It likewise interferes with the salt, and prevents too large a quantity from being absorbed, and thus preserves the meat from that hardness which bacon acquires when this article is left out. Hickory ashes I am told answers nearly all the good purposes of saltpetre. But the care of making good bacon does not end here; we must follow it to the smoke house. Let each piece be hung up clear of another, and there hang till quite dry, then kindle a fire to smoke it in a fire place of the following construction:—Build a chimney with a very low fire place exactly as for a sitting room, and when the chimney is carried up four feet close it at top. A small grate made with hoops or small bars of an old gridiron, at four inches from the hearth, will assist the burning of the wood. By having a chimney thus constructed, the blaze of the fire can never injure either house or meat, and no pieces can fall into the fire when a string or nail gives way. Houses have been burned by pieces of meat falling on the fire, and dispersing it to the wood work. All these accidents are thus prevented, and whilst the blaze and smoke ascend the blind chimney, the smoke must descend again and pour into the smoke house. A small chimney in brick houses on a corner of the wall may be useful to let out the smoke, but no holes in the wall to admit a ray of light. Some chips and a few billets of hickory make the best smoke—these will also keep the house warm, which is very important; for if the smoke house is cold, as will be the case when the smoke is carried by a flue from a lower story or another house, all our former care will be lost: a damp will settle on the bacon, and it will have a bitter flavour.

Mr. A. of Baltimore, taught me never to make a smoke in damp weather, a practice so much followed; for as he observed, his meat gained no colour, but got a bad taste. I am satisfied he was correct, and he had large experience, as he followed smoking for gain. One good fire per diem will smoke the pieces exactly in the same times they were salted, viz. hams 4 weeks, shoulders 3 weeks, other pieces in two. When the bacon is smoked and all returned to the smoke house, a floor, if not laid before should now be laid on the joist; by this means rats will be prevented from descending on the bacon, and the heat of the sun will be moderated, so that the bacon will not drip in summer heats. Darkness and coolness are necessary to preserve the bacon from flies; it may there hang in perfect safety till wanted. But a prudent housekeeper will inspect

this meat in May and June, and then he will see the quality of his meat; that which is not corn-fed will crack and offer places of deposit for skippers, which should be filled up with ashes, and if any are already deposited, let the ashes be taken out the hearth as hot as fire and put in. The meat that is corn-fed will be close all around the cut. A ham of the first kind will shrink in boiling, and cut but a poor figure on the table, whilst the latter will swell to roundness, and overlook the dish; will look as proud, if not as warlike as Juvenal's lobster. When the sharp cover enters the cover, the essence will flow in a stream and fill the whole dish; a most delightful sauce! Such a dish with boiled poultry and savours, though often repeated, never loses its relish with the labouring husbandman, and he seldom thinks of any other to set before his guest.

SILVANUS.

More of the Sore Tongue.

Symptoms, effects and cure.

We have already published on this subject, an extract of a letter from a gentleman in Kentucky, describing this distressing malady as it prevails in that state, with an account of the mode of treatment which has usually been found effectual, a receipt to cure it taken from the Federal Gazette has also been inserted in the Farmer—we now subjoin some further notice of the complaint, deeming it useful to record such matters in a repository, such as this paper affords—to which reference may be had, whenever occasion may hereafter require it.

Ed. Am. Far.

Mr. Skinner.—Agreeably to your request, I send you some observations which I have made, while examining several horses affected with that foul and often fatal complaint, called the sore tongue.

The complaint I believe made its first appearance here the fall past, and has become very prevalent. It doubtless is contagious.

The first symptoms which characterise this disease are a foetid breath, slobbering, and a disposition to drop the food immediately after the first attempt at mastication.

In the course of from one to three days from the commencement of these symptoms, the tongue, high up in the mouth, will be found on examination, entirely raw. The breath of the animal becomes at this stage of the disease extremely foetid.

At this time the creature generally refuses to eat or drink, but when it retains a disposition for either the muscles necessary for deglutition are paralytic or so sore, that the animal refuses to will them into action. The canker continues to spread until it pervades the whole surface of the tongue, the cheeks and lips become swollen, and notwithstanding the most rigorous perseverance in the use of those means which have heretofore been suggested or prescribed, often terminates in gangrene and mortification of the tongue. Thus many poor emaciated animals fall victims to this loathsome disease.

A remedy which could be uniformly relied on as a cure for this fatal malady would be truly acceptable to the public.

From dear sir, your friend and very humble servant,

DAVID E. BROWN.

Union, Loudoun county, (Va.)

Dec. 9, 1817.

Mr. Skinner.—Impressed with an idea that one intention of man being placed in this world is, that he might live in mutual friendship with his fellow men, and assist each other in times of calamity and distress; I am led by this belief to make this communication in addition to the one which appeared in the public papers the early part of this month, since which time I have had a great number of horses and horned cattle under my notice, labouring under the present epidemical disease. Judge, sir, of the sincere gratitude that I feel to the disposer of all good, for the recovery of every one that has come under my notice, by following the course which I recommended, although some were so severely afflicted, as to cause me uneasy moments.

As I am desirous to illustrate my communication with facts the following will serve:

On the 7th of the present month, there were seven cows taken ill; on the 9th I was requested to visit them, and I found the disease to be the prevailing epidemic, I directed the mouth wash to be used twice a day, and ordered that they should be kept in the cow stable that night, and in the morning the overseer to notice how they were as to the state of their bowels, the information was, that they had all passages but at the same time costive. I directed that each should have one pint of raw flax seed oil every day, until her passages returned to a healthy state, twice administered is generally enough, I have the pleasure to hear that they are all able to take their food, and are fast recovering. On the same farm with the cows there are two horses, neither of which has the disease; on another farm there are 7 horses, five have the complaint, but not one of the cows, although there are a number on the place. In a livery stable that has 29 horses, three have had the disorder, these three stood in different parts of the stable, but not one that stood on either side of these horses has taken it; in another case the owner told his boy to take from his horse which had the complaint, the food that was in the manger and throw it away, the horse had attempted to eat and had slobbered in it; under the influence of economy, the boy gave it to the cow, she did eat it; when this came to be known by the owner, he was a little wroth, expecting his cow must have taken the infection, about 3 weeks have elapsed, but the cow continues well, although nothing was done to prevent the infection taking effect. I think the above facts sufficient to prove the disorder neither contagious or infectious; we have no proof that the want of rain has produced it, because in Baltimore and its vicinity, every animal has, or might have had its usual supply of water; should it be admitted that the feed being defective, produced the cause, I am unable to account for so few having the complaint in the stable above stated—and the whole 29 horses being fed with the same hay and grain and breathing the same atmospheric air, that 26 of the above number should escape the infection, while the other three have finally recovered remaining in the same stable! Had the disease been confined to the state of Kentucky, it would be evident that the hot and dry season we have had, was the cause, as in some parts of that state the inhabitants have had to drive their cattle forty miles to water; from the above facts I believe you will agree with me that

the cause of the disease is enveloped in mystery.

I am sir yours,

and the public's humble servant,

JOHN HASLAM, V. S.

Baltimore, 20th Dec. 1819.

The following is an extract from Mr. Haslam's communication which was published in the daily newspapers, and contains his receipt for the cure of the *burnt tongue*.

The first symptoms that some horses show, is pain in the act of swallowing; this is when the disease commences in the throat; in others it begins nearer the end of the tongue, and in these, the first symptom is a willingness to eat, but unable on account of the pains, with considerable salivary discharge; on looking into the mouth the tongue will be blistered, or the blister may have come off and the tongue appear extremely sore; in some cases the lips and cheeks swell, if no other symptoms appear the disease is not alarming, but will give way to the mouth wash. In some subjects of its attack, the system becomes more generally affected,—the horse is feeble, his pulse low, and instead of forty not more than thirty four pulsations in a minute; an obstruction in the bowels, that is the horse may not have more than one or two passages, or perhaps none through the night; when these symptoms appear, give him, according to his size, a pint or three half pints of raw flax seed oil, or one bottle of castor oil; if in 24 or 30 hours after it is given, it should not be in to operate, it must be repeated; let him drink as usual. The best food is chopped rye, shorts or bran made into a slip, if he will not take this, scald oats, that they may be soft to his mouth, some will eat hay rather than any other food.

The wash I use is alum and salt petre, each one ounce, vinegar a pint, honey half a pint, the mouth to be cleansed two or three times a day with a swab dipped in the mixture, introducing it as far up the mouth as convenient; in some cases I have taken blood, but could not perceive that it produced any effect.

FROM THE SPECTATOR.

Ipsi lætitia voces ad sidera jactant

Intonsi montes; ipsæ jam carmina rufes

Ipsa sonant arbusta—

VIRG. ECL. 5. v. 63.

The mountain tops unshorn, the rocks rejoice;
The lowly shrubs partake of human voice.

DRYDEN.

THE SEQUEL OF THE STORY OF SHALUM AND HILPA.

(Continued from page 248.)

The letter inserted in my last had so good an effect upon Hilpa, that she answered it in less than a twelve month, after the following manner:—
"Hilpa, Mistress of the Valleys, to Shalum, Master of Mount Tirzah.

"In the 789th year of the creation.

"What have I to do with thee, O Shalum; Thou praisest Hilpa's beauty, but art thou not secretly enamored with the verdure of her meadows? Art thou not more affected with the prospect of her green valleys than thou wouldst be with the sight of her person? The lowings of my herds, and the bleatings of my flocks, make a pleasant echo in thy mountains, and sound sweet-

ly in thy ears. What though I am delighted with the wavings of the forests, and those breezes of perfumes which flow from the top of Tirzah: are these like the riches of the valley?

"I knew thee, O Shalum; thou art more wise and happy than any of the sons of men. Thy dwellings are among the cedars; thou searchest out the diversity of soils, thou understandest the influences of the stars, and markest the change of seasons. Can a woman appear lovely in the eyes of such a one? Disquiet me not, O Shalum; let me alone, that I may enjoy those goodly possessions which are fallen to my lot. Win me not by thy enticing words. May thy trees increase and multiply; mayest thou add wood to wood, and shade to shade; but tempt not Hilpa to destroy thy solitude, and make thy retirement populous."

The Chinese say, that a little time afterwards she accepted of a treat in one of the neighbouring hills to which Shalum had invited her. This treat lasted for two years, and is said to have cost Shalum five hundred antelopes, two thousand ostriches, and a thousand tons of milk; but what most of all recommended it, was that variety of delicious fruits and pot herbs, in which no person then living could any way equal Shalum.

He treated her in the bower which he had planted amidst the wood of nightingales. This wood was made up of such fruit trees and plants as are most agreeable to the several kinds of singing birds; so that he had drawn into it all the music of the country, and was filled from one end of the year to the other with the most agreeable concert in season.

He showed her every day some beautiful and surprising scene in this new region of woodlands; and as by this means he had all the opportunities he could wish for opening his mind to her, he succeeded so well, that upon her departure she made him a kind of promise, and gave him her word to return him a positive answer in less than fifty years.

She had not been long among her own people in the valleys, when she received new overtures, and at the same time a most splendid visit from Mishpach, who was a mighty man of old, and had built a great city, which he called after his own name. Every house was made for at least a thousand years, nay, there were some that were leased out for three lives; so that the quantity of stone and timber consumed in this building is scarce to be imagined by those who live in the present age of the world. This great man entertained her with the voice of musical instruments which had been lately invented, and danced before her to the sound of the timbrel. He also presented her with several domestic utensils wrought in brass and iron, which had been newly found out for the convenience of life. In the mean time Shalum grew very uneasy with himself, and was sorely displeased at Hilpa for the reception which she had given to Mishpach, inasmuch that he never wrote to her or spoke of her during a whole revolution of Saturn; but finding that this intersequence went no further than a visit, he again renewed his addresses to her; who, during his long silence, is said very often to have cast a wishing eye upon Mount Tirzah.

Her mind continued wavering about twenty years longer between Shalum and Mishpach; for though her inclinations favoured the former,

her interest pleaded very powerfully for the other. While her heart was in this unsettled condition, the following accident happened, which determined her choice. A high tower of wood which had stood in the city of Mishpach having caught fire by a flash of lightning, in a few days reduced the whole town to ashes. Mishpach resolved to rebuild the place, whatever it should cost him; and having already destroyed all the timber of the country, he was forced to have recourse to Shalum, whose forests were now two hundred years old. He purchased these woods with so many herds of cattle and flocks of sheep, and with such a vast extent of fields and pastures, that Shalum was now grown more wealthy than Mishpach; and therefore appeared so charming in the eyes of Zilpah's daughter, that she no longer refused him in marriage. On the day in which he brought her up into the mountains, he raised a most prodigious pile of cedar, and of every sweet smelling wood, which reached above three hundred cubits in height: he also cast into the pile bundles of myrrh and sheaves of spike-nard, enriching it with every spicy shrub, and making it fat with the gums of his plantations.

This was the burnt offering which Shalum offered in the day of his espousals; the smoke of it ascended up to heaven, and filled the whole country with incense and perfume.

Occasional Extracts.

To the Editor of the American Farmer.

MR. SKINNER.—It was with extreme regret, I discovered that "A Subscriber" in page 312, had misconstrued my design. I would not willingly offend any writer for a paper so valuable; I consider every contributor to the American Farmer, however lowly he may be, and surely I am one of its lowliest tribe, as advancing something to the general stock of information, and using his humble efforts to better the agriculture of the nation. I doneus patriæ, sit utilis agris.* Yet I am delighted that my weak and misconceived remarks, have elicited his experiments, for they appear to have been made by one of a discerning mind, and discriminating industry.

This writer had inquired "what quantity of ruta бага, and the length of time required, without the assistance of grain, would render a bullock of any given weight, fit for the butcher."—From the words without the assistance of grain, I concluded that he meant to feed the bullock entirely on this vegetable, or at least to the entire exclusion of grain, and conceiving this to be an error, I was willing to correct it, as far as my inferior knowledge would allow. If I have erred in the construction of the sense, I trust he will remember, "to err is human, to forgive, divine." Your paper is not a controversial one, I forbear to say more, and will on this head only say, I am sorry to have given offence, and trust "A Subscriber" will no longer deem it one.

My observations on this vegetable have not yet been of one year's standing. I obtained a pound from Cobbett, sowed broad cast more than a third, upon one third of an acre. It was greatly too thick. The seed was rolled in plaster, and plastered when very young. It was never thin-

* Juv. Sat. 14.

ned as it should have been, from not knowing the depth of the root, and immense size of the leaves. Wretched as the season was the produce of this third of an acre, was one hundred and ten bushels, of the largest, and fifty bushels of the smaller, which latter were fed to the hogs, boiled. These hogs were fed alternately on boiled potatoes, boiled ruta bage, and tops, and pumpkins before I began to feed with corn, or rather to harden with it, so as to have three different kinds of feed in a day. My hogs thrived I thought better with this change than usual, and when I began to corn feed, they thrived astonishingly, which I thought was attributable not exclusively, but in no small measure to the introduction of the ruta bage.

The other will be fed away to stock, and as a cold food, I think it preferable to the Irish posato.

The ox, the cow, the sheep, will all fatten well without Indian corn, not so the hog; his fat if not corn fed at the close, will be soft and oily, but he may be fattened, and grow to an enormous size on boiled vegetables, and then his fat should be hardened with corn.

According to the experiment of "A Subscriber" an acre of ground will produce 400 bushels of ruta bage, 32 bushels of which, and 12 weeks are equal to 4 bushels of shelled corn, and six weeks, exclusive feeding on each, which is one eighth of food, and one half the time. My own observation convinces me, that it is better to sell all the corn I can by substitution of other eatables, because it is more valuable, more difficult of agriculture, more easily transported to market; but I have made no experiments in exclusive feeding on a particular food, being convinced that it is erroneous. I have imparted my ideas, and hope they may be taken in good part, as I have no wish to offend; I only read, to learn, and write to improve.

— Si quid novisti rectius istis,
Candidus imperti, si non his utere macum.

A FRIEND.

P. S. To make 400 bushels of corn, at 50 bushels to the acre, (an enormous product) would require eight acres, and in many places this year there was not made six bushels to an acre, and the season was alike unfavourable to corn as turnips.

FOR THE AMERICAN FARMER.

St. Domingo Farm, December 3, 1819.

MR. SKINNER,—Having lately appointed a day to slaughter my hogs, and desired my manager to make the necessary arrangements, he replied that it was not the right time in the moon, that the meat would shrink* if I killed it in the decrease of the moon. When I ridiculed the

* The Editor confesses his want of faith in the common opinion, that the flesh of animals killed in the decrease of the moon, will, when cooked, shrink from the bone, leaving much of it exposed, when brought on the table.—But he has heard it maintained most strenuously to be a fact, by persons for whose judgment and veracity in all things else he has the highest confidence. We will cheerfully publish some reasoning and facts, in favour of this old opinion if any one will advocate it under their proper names.

idea of lunar influence, he observed "Then if you will have them killed. I will not feed them the day before they are killed." I told him that was not the kind of preparation I wanted him to make; that I thought his notions were as wrong in this, as about the moon, and requested him to feed them as usual.—The above occurrence induced me to communicate to you my opinion, that the common practice of starving hogs a day or two before killing them, for the double purpose of saving feed, and having them empty to facilitate the handling and opening them is no economy, notwithstanding the argument that their last feeds will do them no good till digested. I am further of the opinion that all well fed animals will have high fevers from long fasts, and particularly the hog, as he is a hearty eater and an impatient faster; and that the flesh of animals dying with a fever is not so delicious nor wholesome, as when killed in a healthy, thriving condition, as the fever will diminish and deteriorate the juices, and perhaps have more influence in shrinking the meat in the tub or pot, than the moon has. I wish to occupy but little room in your very useful paper, because of my incompetency to employ it to advantage; but I have a desire that the above opinion may be published, as it is in contradiction to extensive practice. it may cause further examination by an abler correspondent.

Yours &c.

A Young Farmer.

EXTRAORDINARY SEASON.

In some respects, the past season may be considered as having been very singular in various parts of this and other countries.—Among the extraordinary circumstances of the season, is that of double crops of fruit. To the statements we have already published on this subject, we add the following from the Charleston Patriot of the 22d December.—"From a single pear tree, were gathered, in August last, in this city, upwards of three hundred pears, one of which weighed one pound, seven ounces, and measured thirteen and a half inches in circumference. Nearly the whole of the number were but little short, we have been told, of this size. The same tree produced, our informant states, a second crop of 250 pears, gathered in the middle of this month, some of which weighed from four to five and a half ounces. They are said to be well flavoured, and extremely juicy."

THE FARMER.

BALTIMORE, FRIDAY, JANUARY 7, 1820.

The Editor of the American Farmer has purchased, for the Agricultural Society of South Carolina, 1000 lbs. of seed cotton, imported from South America, by Col. Thomas Tenant, who has consented to send the balance of the importation, to be sold at Charleston. Southern Planters will thus have an early opportunity of ascertaining whether imported seed may not resist the rot, as suggested by General Troup, of Georgia.

Fifteen very fine fat Bakewell sheep, raised by Mr. Exton, of Dragon Neck, Delaware, weighing from 90 to 120 lbs., were purchased

last week, by Mr. George Elliot, at the average price of twelve dollars per head.—One of them sold in market on Wednesday last, at 10 and 15 cents per lb.

The lovers of Flora are requested to read this.

The subscriber has just received the most superb and extensive collection of

Roots and Plants

ever imported into the U States, all warranted sound good roots, true to their kinds and quality, and ensured to flower. Ladies and gentlemen are invited to call and see them—for to particularize them, would fill up the columns of a newspaper. Every person can be accommodated, as they will be sold from four cents to thirty dollars each. The above will be offered for sale for a few days and if not disposed of, will be removed to another market; and should the subscriber not receive encouragement for the risk he has run, he never will again offer to the public such a treat.

Garden seeds, garden tools, English split peas, tares, &c. &c. for sale at No. 2. Hanover Street, next to Mr. Barnum's hotel. J. P. CASEY.

Dec. 31.

TO THE PUBLIC.

HOTCHKISSE'S

Improved Straw Cutter.

The subscriber purchased the patent for this useful machine about a year ago, for all the U. States, south and west of New York, since which time he has made many very important improvements, on the machine, which renders them much more durable than before, and less liable to get out of order, as all the machinery is of cast and wrought iron: and the friction on the whole of the present machine, is not more than the friction of the single gate and knife of the former machine.—The subscriber has also the pleasure to inform the public, that the Agricultural Society at Annapolis, at their meeting on the 15th of this present month, awarded a premium of twenty-five dollars, to this machine, and became purchasers of the patent right for Anne-Arundel county. Colonel Henry Maynard, president of the Annapolis Agricultural Society, and Major Richard I. Jones, are duly authorised to dispose of the patent right for any county, or number of counties in this state. The subscriber has letters of recommendation of this machine, from some of the first agriculturists in this state and Virginia, who have sufficiently proved it.

JONATHAN S. EASTMAN,
Proprietor.

Dec. 31.

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,
BALTIMORE.

AT FOUR DOLLARS PER ANNUM.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O Fortunatos nimium sua si bona norint
Agricolus. VIRG.

VOL. I.

BALTIMORE, FRIDAY, JANUARY 14, 1820.

NUM. 42.

AGRICULTURAL.

ANNAPOLIS, January 1st, 1820.

DEAR SIR,—In pursuance of a resolve of the Agricultural Society of Maryland, at their anniversary meeting, held on the 15th of December, in the chamber of the House of Delegates, I transmit, for publication in your useful and widely circulating paper, the address of Virgil Maxcy, Esq delivered to them, and to a large assemblage, composed of officers of Government, members of the General Assembly, and ladies and gentlemen from the city, and from various parts of the state.—Also, the communication from Dr. Joseph E. Muse, on the *modus operandi* of Plaster of Paris.

II. MAYNARD, *President of the
Agricultural Society of Maryland.*

PROCEEDINGS]

OF THE

AGRICULTURAL SOCIETY OF MARYLAND.

The Agricultural Society of Maryland agreeably to the provisions of their constitution, met in the city of Annapolis, on Wednesday, the 15th instant. After the usual business was transacted, the President presented to the Society a communication from Dr. Joseph E. Muse, of Dorchester county, Md. on the *modus operandi* of gypsum, which was read. The Society resolved that the President request the editors of the *American Farmer*, *Maryland Gazette*, and *Maryland Republican*, to publish in their respective papers, Dr. Muse's learned and very ingenious communication.

Judges were appointed to examine the articles offered for exhibition, who awarded premiums to the following persons:

To Mr. Jonathan S Eastman, for his improved straw cutter. This instrument was so much approved of, that the patent right for Anne Arundel county was purchased by a company of gentlemen present.

To Mr. Arthur T. Jones, of the Eastern Shore of Md. for an instrument, consisting of a plough and harrow united, well calculated for putting in grain on corn ground.

To Mr. Christopher Jackson, for a bull, 2 years old, of a good size and fine proportion.

To Mrs. James M'Cubbin, for the best woollen carpet.

To Mrs Watkins, for a piece of very good carpeting.

To Mrs. Hart, for a fine rug, of good materials and handsome colours.

To Mrs. Sears, for the same.

To Mrs. Frances Fowler, for the same.

To Miss Stalling, for an excellent counterpane, and some fine vest patterns.

To Mrs. Cambrill, for a counterpane very fine and of handsome figure.

To Miss E. Murdock, for a down hat, ingeniously made and handsomely decorated.

To Mrs. Eliza Warfield, for the best wollen stockings and gloves.

To Mrs. Elizabeth Thompson, for a pair of uncommon fine knit cotton stockings.

Mr. Thomas Chase exhibited some very large cauliflower, from his farm, near Annapolis; one of which weighed 19 lbs. with leaves, and 7 lbs. when stripped of them.

Some of Wood's patent ploughs, made at the foundry of general John Mason, near Georgetown, were exhibited. These ploughs were highly thought of on account of the ease with which the beam might be raised or lowered, and particularly on account of the excellent form of the cast iron mould board.

At two o'clock the society adjourned, and assembled again at 5 o'clock in the evening, for the purpose of hearing an address, delivered by Virgil Maxcy, Esq. member of the society, in the Chamber of the House of Delegates, agreeably to a request made by the Society at their last meeting. After Mr. Maxcy had concluded, the following resolutions were proposed and assented to.

Resolved, That the thanks of this Society be presented to Mr. Maxcy, for the able and eloquent address delivered before them.

Resolved, That the Secretary apply to Mr. Maxcy for permission to publish his address, and if it be obtained, to cause two hundred copies of the said address to be published for distribution, under the direction of the President.

Resolved, That the President be requested to transmit copies of the address to the editors of the *American Farmer*, the *Maryland Gazette*, and the *Maryland Republican*, for publication in their papers respectively.

T. H. CARROLL, Sec'y.

ADDRESS, &c.

Gentlemen of the Agricultural Society of Maryland.

Having been requested to deliver an address at this anniversary meeting, I have thought it best, after a few preliminary remarks upon the relative importance of Agriculture, in comparison with other pursuits, to invite your attention to a brief view of its condition in Maryland, and to an examination of the means, by which individuals, as well as the Legislature, may most effectually contribute to its improvement, which has now become equally essential to the welfare of the Agricultural class and the general prosperity of the state.

Political writers have from the beginning, differed with respect to the sources of the wealth of nations, some attributing it to Agriculture, some to commerce, some to manufactures, and others to labour and capital employed in all three. The last appears to me to be the true theory; for Agriculture originates, manufacture improves, and commerce gives value by creating demand, while labour and capital stimulate all. But however variant opinions may have been or still are with respect to these several hypotheses, all must agree that whatever may be the value imparted by the labour and ingenuity of man to the productions of nature, the earth is the original parent of them all. Agriculture is the art, by which these productions are multiplied, so as to meet the wants of civilized men. Most of these wants are common to all,—to the agriculturist, the manufacturer and the seaman, as well as to the artist, the man of letters and the statesman. As all equally derived their origin from the earth, all are equally dependent upon it for their subsistence and accommodation. However then commerce and manufactures may polish the shaft, or learning and the fine arts may decorate the capital, it is agriculture, which forms the deep and solid base, on which the column of civilized society reposes.

Agriculture is an unobtrusive art. It performs its silent labours in retirement and out of the view of the multitude: On the other hand the arts throng the cities and bustle in the crowd; while commerce, appropriating the products of both, hoists its gaudy flag, spreads its swelling sail, traverses the globe, and challenges the gaze of men in opposite hemispheres.

Nations, as well as individuals, are governed by external appearances and first impressions, until philosophy, by teaching them to think, enables them to trace effects to their true causes and to assign to them their relative importance. Hence commerce, from the display it makes before the eyes of men, was generally considered the first and greatest agent in the productions of national wealth, and manufactures were ranked next, whilst modest agriculture, hidden in the privacy of the country, was forgotten, or if remembered, was remembered only to be undervalued or despised.

Agriculture therefore in Europe, even half a century ago, formed the occupation almost exclusively of the lowest order of the people, without knowledge to enlighten, or capital to enable them to improve. Of later years, however, since Political economy has assumed the form of a science and has caused statesmen to be more sensible of the importance of an improved state of agriculture, it has attracted more attention from the better informed and wealthier classes of society, it has excited the inquiry of the learned, and is at length beginning to obtain that degree of consideration, which its importance so justly demands.

In England nothing has had a more powerful effect in attracting to it the public notice, than the establishment of agricultural societies. Many patriotic men of rank, fortune, learning and talents, gave them their closest attention, and, by their personal example, drew to them the regard and respect of that class of people, who had the means of undertaking improvements upon an enlarged and liberal scale. A general emulation was excited amongst the country gentlemen; public opinion became enlightened; the government felt its influence; and, at length listening to the able representations of that patriot farmer, Sir John Sinclair, established the British Board of Agriculture and Internal Improvement.—This board, while it serves as a centre of information to inquiring agriculturists, performs the same office to the government, and points out to it such measures, as are best calculated to promote their prosperity. Under the combined influence of this board, and of the numerous societies in all parts of the country, agriculture has been inspired with new spirit and activity. Men of speculative minds have begun to investigate, statesmen to examine, and political philosophers to analyze, with a deeper scrutiny, the sources of England's power; and, to the utter astonishment of all, it has been ascertained, that wide spread as is her commerce, and extensive as are her manufactures, it is to her agriculture more than to both, she was indebted for the support of her system of public credit; a system whose amazing energy enabled her singly to breast the furious and towering flood of united Europe's rage, and finally to roll back its agitated waves over the head of the potent Prospero, whose magic had raised them!

This fact, extraordinary and surprising as it may appear, has been proved beyond a doubt by the result of the tax, which was levied indiscriminately upon all classes of the people having an income of more than 50*l.* sterling per annum.

The proceeds of that tax from the proprietors and occupiers of land were } 6,433,475*l.*
The proceeds of it from all other classes, }
merchants, manufacturers, office holders, } 3,021,187*l.*
ers, professional men, &c. were only }
Less than one half the amount, received from the agricultural class.

The number of proprietors and occupiers of land,

who came within the operation of the income tax, was three times as large as that of all other classes together.*

As in political calculations it is proper to consider all men, as sending the amount of their income; it is also fair to consider them as paying indirect taxes in proportion to their expenditure. And as a vast deal of commercial property escapes direct taxation, we may without fear of error take it for granted that the agricultural class in relation to their property, pay far more than their just proportion of the direct taxes. We may then safely conclude, that at least three-fourth of the vast revenue of Great Britain is derived, directly or indirectly, from the owners and cultivators of the soil. And in her darkest hour, when invasion threatened all her coasts, when thick gathering perils appalled the merchant and the fund-holder in the midst of London, where but among the yeomanry of the country were found the fearless hearts and toil-strung arms, that presented an impenetrable barrier to her foes.

If such then be the relative importance of agriculture and the portion of her population engaged in it in Great Britain, whose commerce and manufactures are so extensive, but whose whole territory is almost equalled by several of our single states, of how much greater consequence is agriculture or the agricultural class in the United States, whose territory stretches from the St. Lawrence to the Gulf of Mexico, and from the Atlantic to the Pacific Ocean? If agriculture be the nerve of England's power and the source of her wealth, and if commerce and manufactures, even there, are merely useful hand maids, to distribute, improve, convert into other forms, or consume its products, of how much greater importance must it be in all points of view to our country? And who shall calculate the limits of its wealth and prosperity, its grandeur and power, should the people adopt, throughout its almost unlimited territory, an improved and enlightened system of cultivation?

Massachusetts and New York, since the termination of the late war, have set a good example for the imitation of their sister states, by enacting laws for the direct encouragement of improvement in agriculture. By the provisions of their acts, a sum of money, proportioned to the amount, that may be raised by an agricultural society in each county, is ordered to be paid to it out of the treasury, to be distributed in premiums under its direction.† In several other states, societies own their origin and progress to the public spirit of individuals. A circumstance, worthy of notice, which, while it is gratifying to the friends of the plough, is at the same time illustrative of the simple habits and manners of our country, is, that citizens of the highest distinction have not only given the countenance of their name and character to these useful associations, but have accepted appointments in them, requiring active duty, and taken a leading part in their management.‡

No state in the union would derive greater benefit from the establishment of such societies and from a diffusion of correct information on agricultural subjects, and rural economy than Maryland.

* Vide Sir John Sinclair's Code of Agriculture pages 343, 345.

† For the New York act—See No. 20, page 155, of the American Farmer.—Editor.

‡ In evidence of this fact, may be cited, amongst many other honourable example, the addresses of Mr. Madison, late President of the United States, now President of the Agricultural Society of Albemarle county, in Virginia;—Of Col. Pickens, once Secretary of war, afterwards Secretary of State, and now President of an Agricultural Society in Massachusetts;—Of General Davis, formerly minister to France, now President of the Agricultural Society of South Carolina;—And of Major General Brown, who is now at the head of our army, and whose late speech before an agricultural society in the state of New York, of which he is Vice President, is distinguished by a vigour and energy of thought and expression, at once characteristic of his mind and profession.

In the Conococheague and Monocacy valleys, and in some other parts of the northern counties of the state, a good system of husbandry is established and excellent practices prevail; but in the southern parts of the state on either side of the Chesapeake, agriculture languishes in the most wretched condition. On the Eastern shore a severe course of cropping, without a judicious rotation, has reduced a soil, originally fertile, to a state of sterility. If here and there you come direct to a farm or neighborhood, where better habits prevail and an improving system of cultivation has, in part, restored the original productiveness of the land, your eyes are regaled with the same sort, tho' not the same degree, of pleasure, with which a wanderer hails the spots of green on the the desert of the East.

Nor do the lower counties of the western shore exhibit a more exhilarating prospect. This is generally a waving country, blest with a soil originally fertile, covered with the noblest forests, and intersected with navigable streams and creeks, falling either into the great Chesapeake or Potomac, and affording the easiest and cheapest means of transporting its produce to market. Look over the map of the United States, nay of the world, and you will hardly find a spot, where the choicest advantages for successful agriculture have been so bountifully showered by a beneficent providence, as upon this tract of country. And yet what a melancholy prospect does it now exhibit! The original settlers first cleared a corn field in the forest, next a tobacco lot, and cultivated both with successive crops of the same articles, until their powers of reproduction being completely exhausted, resort was again had to the forest, and a new corn field and a new tobacco lot were cleared. The same process was repeated, until almost the whole of this highly favoured region was spoiled of its valuable wood and timber. Shallow cultivation came in aid of this system of destruction by fire and axe. The plough, the greatest blessing, when properly used, ever bestowed by the inventive powers of man upon the human race, became a more powerful auxiliary in effecting this scene of desolation. When the plough sinks deep the loosened earth absorbs the heaviest rains and preserves the moisture for the nourishment of the crop, if drought succeeds; but when it stirs the surface only the light top soil becomes fluid at a copious or sudden fall of rain, and both soil and water are precipitated from the hills to the creeks and branches below. Whenever fertility was by these means completely destroyed, the fields was thrown out of cultivation; stunted pines uniformly succeeded to the occupation of land, originally covered by the finest oak, hickory, beech and poplar; and wherever a few of the latter have escaped destruction, they serve, beside their dwarfish neighbours, as monuments of the magnificent bounty of God, in melancholy contrast with the thoughtless improvidence of man!

This gloomy picture is but too faithful a representation of this interesting portion of our state. 'Tis true, there are scattered in different parts of it, enterprising, intelligent and spirited individuals, whose husbandry would do credit to Frederick and Washington counties. But though the improvements, which they have made, have doubled the produce and value of their lands, and their efforts have been crowned with the most distinguished success, their example has had but little effect in reforming the habits of the country in general. These habits must finally reduce those, who indulge in them, to poverty, and banish them from their homes.

And must this beautiful region be deserted? are its inhabitants doomed to join in the current of western emigration, and leave abodes endeared to them by a thousand tender recollections? And must the hospitable fires of the Eastern shore be distinguished? Shall that social, warm hearted and generous people be compelled to seek new and more fertile lands in the south or the west, while in deep felt sadness they cast many a "longing, lingering look behind" upon the receding homes of their childhood?

I trust not. I confidently hope, that the spirit of improvement which has totally changed the face of the country and the condition of the people in other parts

of the state, will extend to them. An enlightened system of agriculture is all that is wanting. The means of improvement are at hand on both shores. Let the marl beds, which abound on the Chesapeake, be explored and spread upon the fields;—Let the plough be driven deeper into their surface;—Let Gypsum stimulate the sleeping energies of a soil newly turned up to the fertilizing dews and atmosphere of Heaven;—Let clover and other improving crops restore to the exhausted earth the vegetable matter indispensable to fertility;—Let the rich soil, washed from the hills into the low grounds and branches, be hauled to the farm yard and mixed with the offal of the cattle;—Let the sea-ware, which every tide drives upon the shores of the Chesapeake Bay, and lime so easily procured from its inexhaustible banks of marine shells, be spread upon the fallows and mixed with the soil. But above all, let agricultural societies be formed in every county in the state. These when conducted with zeal, are most powerful agents for the introduction of the good practices I have enumerated, and for the dissemination of information, derived from experience; for the overthrow of errors and the establishment of useful truths; for the excitement and maintenance of a generous emulation among agriculturists; for inspiring a strong desire for the distinction and reward, which excellence in their art will confer;—in a word, for adding to the all pervading impulse of interest, the ennobling stimulus of ambition. The planter and the farmer, in common with all other human beings, acknowledge the dominion of this powerful principle: but the circumstances of their lives bring it but seldom into operation. The lawyer, the physician, the manufacturer and the mechanic, exercise their professions in the presence of witnesses; their respective skill becomes the subject of comparison in the city or neighborhood, where they reside; and they immediately feel the result of that comparison in the increase or diminution of their profits as well as reputation. On the contrary, the agriculturist has rarely a witness of his labours to excite his pride, or amend his practice by the communication of useful knowledge. This is the great and predominant cause of the slow progress of improvement in Husbandry and rural Economy. Agricultural associations are the most obvious as well as most effectual means of removing this cause. They bring to light the merit of good cultivators, and, while they reward the deserving, they instruct and stimulate the ignorant. By means of cattle shows, ploughing matches, and exhibitions of produce, stock, and implements of husbandry, they bring together those, who are interested in agriculture, for purposes connected with their pursuits. Information of various practices is communicated from one to another; conflicting opinions excite discussion, inquiry and experiment; the knowledge of each becomes common to all, and a general desire of improvement is encouraged and diffused.—The prudence, which deters the cultivator from adopting new practices, which may result in embarrassment no longer prevents their reception when the success of others has established their safety and utility. This success is made known at such meetings and invites imitation. New and more profitable modes of culture are thus introduced, and a general melioration of the condition of agriculturists takes place.

If these reasons be not sufficient to satisfy every one of the utility of Agricultural Societies, let me call your attention to the example of such nations, as have encouraged and multiplied them. The best and most intelligent writers upon agriculture in France, Germany, England and Scotland, attribute the rapid improvement of those countries to the efforts and influence of such associations. There is now scarcely a district of any extent or importance in Great Britain, which has not its agricultural society. Such associations first diffused a spirit, that led to the establishment of the British Board of agriculture and internal improvement; and that in return has caused the formation of more agricultural societies, than ever before existed in any nation in any age. This Board collects in a focus all the rays of knowledge, emanating from these numerous bodies, while each of them in return receives from it the concentrated intelligence

of all the others, and brings it within the reach of every individual in the kingdom, desirous of acquiring it. Agriculture in that *commercial* and *manufacturing* country is now gaining its share of the public attention and regard, which have hitherto been bestowed exclusively on commerce and manufactures, and is attaining the rank and dignity, to which it is intrinsically entitled. Shall it be held in less estimation, and its improvement be deemed of less importance in this great *agricultural* country? Enterprize seems to be the persiding genius of our people. His giant foot-prints are visible in every part of our broad territory. Having, with a magical rapidity, settled the country and built up the cities of the Atlantic he has transcended the Alleghany; he has levelled the forests of the vast extent on this side of the Mississippi; he has planted there villages and populous towns; he has crossed that monarch river of the west, and now explores the interminable regions of the Missouri. Shall he become the destroying demon or the beneficent deity of the country, he has uncovered to the sun? Shall he scourge the fertile soil, till sterility and its attendant poverty succeeded, or shall he, by a judicious system of cultivation, preserve forever its original productiveness?

This is a question of the greatest magnitude to those parts of this vast empire, which are still unexhausted. But a question of still nearer interest to Maryland forces itself on the mind. How shall fertility be restored to its worn out soil and depopulation be prevented? Some of the means depending upon individual exertions, and some efforts of agricultural societies, I have already attempted to point out; but much, in aid of them, may be done by the government of the state.

It is essential to the prosperity of the cultivators of the soil, that they should have access to markets where such prices may be obtained, as will repay past labour and encourage reproduction. In reference to this object, the utility of good roads, bridges, railways, and canals, and the removal of obstructions in rivers and creeks, is too obvious to require a single remark to illustrate it.

Great undertakings of this sort, where several states are concerned and where rival interests may excite jealousies and present obstacles, seem properly to belong to the general government. Had the plan of that profound and eloquent statesman, who presides over the war department, for the establishment of a fund for internal improvements succeeded, many of those now present might have lived to see *national* Highways and *national* Canals, intersecting our great country in all important directions, facilitating communication between all its parts, and forming those bonds of connection, that have now, since the application of steam to the purposes of navigation, become more necessary than ever to the preservation of the union. However desirable to this country independence of foreign nations for necessities, conveniences, or even luxuries may be, all must acknowledge, that a mutual independence between our different states for the promotion of their prosperity is, the strongest tie that can bind them together. The course of commerce, which has heretofore made the Atlantic cities the market of the productions of the West, and the source from which it derived supplies of foreign goods, constituted the most powerful ligament between them. Should steam navigation on the Mississippi ever be able, to supply the vast regions, from which it gathers its waters, with the products of foreign commerce, at a cheaper rate than they can be afforded by the Atlantic cities across the mountains, and should New Orleans or some other city, on that river, become the great mart of their agricultural produce this ligament is burst asunder,—and a patriot might well tremble at the agitation of any question, involving a real or even an apparent conflict of interest between the people residing on the different sides of the Alleghany. In such an event, that great ridge, instead of being what it has been emphatically styled the "*back bone of the United States*," which no human strength can break, no sword can sever," might become the barrier between two hostile empires. To prevent so calamitous a result, no means are so well adapted as the establishment of roads and canals.

And who, in this inventive age, shall despair of seeing the day when steam, applied to carriages upon rail ways, shall perform prodigies on land, that will rival those, which it has already exhibited on the water.

Had the General Government adopted the proposed plan of Internal Improvement, the offspring of a wise forecast, that looked to distant political as well as commercial results, no state in the Union would have derived so much benefit from it as Maryland. The waters of the Potomac approach nearer to streams, that intersect the Western Country, than any other river of the United States. To remove the obstacles to its navigation would probably have been the first object that would have attracted the attention of the General Government. One of the next would probably have been the completion of the best communication by land between the West and our great Commercial Capital. These objects effected, Washington and Baltimore would have become the great marts of Western trade.

We might moreover have expected to see the waters of the Eastern Branch, connected by a canal with the waters of the Patapsco; and the Chesapeake, joined to the Delaware. The greater part of the state might then have had a choice of the three markets, Baltimore, Washington and Philadelphia. How great a stimulus this would have been to our agriculture, is more easily imagined than told.

The General Government, however, have declined entering into this career of Internal Improvement, and have thereby devolved that important duty upon the several states in their separate capacities.

New York, Virginia, South Carolina, Tennessee, and several other states, have engaged in it with a spirit, highly honorable to themselves, and worthy the imitation of all the others.

Shall Maryland be indifferent to these noble examples? Shall the witness unmoved, the gigantic efforts of New York, now cutting through her territory a canal of nearly three hundred miles, which by opening a vast extent of fertile country to a market, will invigorate her agriculture, and by the junction of the Hudson with the lakes, draw off to her chief commercial city a part at least of that western trade, which proper exertions might retain to ours? Shall she be insensible to the example set her, still nearer home, by her neighbour Virginia, whose Board of Public works are not only planing canals, and removing obstacles to navigation from her rivers and creeks, for the benefit of the country adjacent to them, but are extending their views farther, and inquiring into the practicability of a water communication with the west? Shall she too rob us of a portion of the Western trade? And can we look with indifference upon the strenuous exertions of our jealous rival Pennsylvania, to accomplish the same object? In a competition for the western trade, nature has given us the advantage, in the geographical position of our territory, and if we lose it, it will be entirely owing to our own listless negligence.* Will it be said, that we have contributed large sums of money for making the Potomac navigable; that we have incorporated several canal and road companies, that we have devoted the bonus, which might have been demanded for a renewal of the Bank charter to the completion of a turnpike to join the great national western road; and pledged the proceeds of two annual State Lotteries, as a fund for making internal improvements, for the promotion of literature and science, and the establishment of benevolent institutions. All these measures certainly merit approbation; but more ought to be done. An ample fund, immediately productive, ought to be created and pledged for these all important purposes, so intimately connected with the character, dignity and prosperity of the state.

May we not be allowed to hope, that the wisdom of the General Assembly, many of whose members have honoured our meeting this evening by their presence, will be directed to the accomplishments of these interesting objects? By adopting such measures as will

* Vide an able pamphlet, published last year by a late member of the executive council, entitled "Remarks on the intercourse with the western country."

effectually attain them, they will give themselves an incontestible title to the lasting gratitude of an enlightened people; for such measures, aided by the influence, example and intelligence of such societies throughout the state, as you, gentlemen, have formed in this, its ancient capital, will revive its drooping agriculture; will lay the foundation of a permanent prosperity, by restoring fertility to the districts now worn out by a destructive system of cultivation; will check those ever-flowing currents of emigration to the south and west, which are constantly thinning the population of many parts of the state; will thereby increase our numbers, and of course our relative political weight in the great national family; and what is of at least equal consequence, will elevate the character of our state, will add dignity to its name, and challenge the respect and applause of the Union. Should such a course of measures be heartily adopted and vigorously pursued a new era will open upon Maryland; she will take a high stand among her sister states, her citizens will feel a conscious pride in her character, and the lofty patriotic state feeling, which will ensue will carry her, through a long course of liberty and honor, to the farthest goal of wealth, prosperity and happiness.

FOR THE AMERICAN FARMER.

PROCEEDINGS OF THE AGRICULTURAL SOCIETY OF ALBEMARLE.

ON MANURING FOR WHEAT.

No. 6.

SIR,

The following account of a manuring for wheat upon fallows, I have thought worth giving to the society, being persuaded that facts, accompanied with a detail of all circumstances likely to influence results, are a more valuable kind of information, than the most ingenious commentaries.

In the summer of 1817, I fallowed eight acres of poor, high land, known in this part of the country by the denomination of Barrens and unaided by manure, I think would not have produced more than eight bushels to the acre, with the most favourable seasons. Having but the small quantity of manure that was made upon the farm, and an adjoining plantation, between the time of carting off the contents of the farm yard in the spring, and the season of wheat sowing; (it is proper here to remark, that it was chiefly of the strongest kinds, the greater part of it being made from the stables.) I determined it was safest to err, rather upon the side of giving it too much, than too little extension; I therefore checked off the land with a plough 23 1-2 yards by 17 1-2, putting a load into the centre of each square, which gives precisely 12 loads to the acre; the manure was carted out just in time to plough it in before seeding—the cart used carried between 25 and 30 bushels only at a load, the manure was better rotted than it usually is at this age, from being placed in a stercorary, which kept it moist with the muck-water that settled at its bottom—the seeding was commenced on the 5th of October, and finished the 7th—put it in with harrows on the second ploughing

Seeded one bushel to the acre—and the

produce was *twenty bushels to the acre*, the wheat was of the kind known with us under the name of the Yellow Bearded.

J. H. COOKE.

P. MINOR, Esq.

Sec'y of the Agri'l. Society of Albemarle.

FROM THE AGRICULTURAL MUSEUM.

Five Minutes Reflection on Sheep.

This valuable animal has been much neglected, and little understood in our part of the country, Virginia and Maryland, where I have only known it. The introduction of the Merinos will, it is to be hoped, do good by, at least, awakening the attention of the community to the better care of one of the best stocks we possess. I do not mean here to speak of the relative fineness of wool, but to drop a few hints as to the rearing of that estimable material. This can only be done by the due cultivation of the soil, on which it is propagated—the back of the sheep.

I have been myself for years, in common with my neighbours, guilty of manifold omissions and neglect on this score. Having now, in some measure, corrected the procedure on my own farm, I owe it to them to give in my experience. In these states, with but few exceptions, sheep have been considered as a stock able to shift for itself, to do without care, and without food, except what it picks from the fields, as well in winter as in summer; hence, every year poverty, and diseases arising from poverty, occasion a loss of lambs and furnish a miserable pittance of dry wool, half fallen off, in consequence of poverty and disease, and every four or five years, infection and deaths diminish our flocks by wholesale.

The following are the only three simple rules necessary to be observed, to give us and to preserve fine sheep and good wool.

Nurse your lambs when they first come into the world.

Support your sheep in good heart in all seasons while they live.

And do not suffer them to live longer than they can feed with industry and vigour.

The breeders should be put together, so that the lambs may begin to drop about the 10th of February; by this time the winter is broken up, and every day looks milder weather. Early lambs are of advantage, and with care, at this season, even ninety-five in an hundred may be saved. Where more than five per cent. is lost in lambs, there is neglect. With the double lambs, there may be readily raised, every year more lambs than there are ewes—To secure this care, let it be remembered, that “the eye of the master is the most sure.” At this interesting period he should see his flock, at least once a day—and the man who attends his sheep, and who must be trusty and handy, should visit them at short intervals, throughout the day, and particularly early and late, during the time of yearning. Let there be prepared a small lot or paddock, near the common pen, and

shelters. In the paddock, let there be a shed or cover of some kind to keep off rain and snow, under which fix a parcel of little pens 5 or 6 feet square and three feet high, no matter how rough and in number proportioned to your stock. Ten for one hundred ewes will be enough, for the purpose of confining a ewe and her lamb occasionally.

A ewe goes twenty-one weeks, two or three days more or less. By having noted when the rams were put into the flock, it may be known when to expect the first lambs. Let the ewes be narrowly observed from this time, and as their bags spring, and indicate the approach of a birth, within two or three days, (to permit which to be easily observed, as well as for cleanliness, their tails should be all short) let them be put into the yearning paddock—To separate the ewes about to yearn, and to keep them separate from the flock for a few days after yearning, is best at all times; in cold weather, absolutely requisite.

The sheep is a foolish timid creature; any one of them is with difficulty restrained from following the flock. If the ewes at this season are all left in the common pasture, when the flock moves, a ewe that may have just dropped a lamb, and particularly a first lamb is very apt to run after them, and leave her young to freeze or to starve. Again, in the midst of a flock, it often happens that a ewe, during the first day or two, by the crowding of others, and the frequent change of position, gets confused and doubtful as to their own lamb—and presently mistakes and disowns it. It is surprising to see what degree of cold a young lamb will bear, and how thrifty it becomes, if passed safely through the first forty-eight hours; during which time, and most particularly for the first twelve hours, they are liable if exposed to wet and cold, and if not licked and caressed by the ewe, to be frozen or starved to death. It is in this way, that nine tenths of the lambs lost do die.

In the yearning paddock, each ewe need not remain more than seven or eight days after yearning, and consequently no more than seven or eight days altogether, if carefully observed and put in at the right time. Thus it will not be crowded, and those that are there can the more readily receive the requisite care from the attendant. In open weather no care is necessary to the ewes in this paddock, but to give them access to the shed, and to feed them as the flock. If falling weather, or snow on the ground, the ewes or the eve of yearning, should be put each in one of the pens under the shed, on a little dry straw, and there kept with the lamb till it is two or three days old. If a ewe should not be fond of her lamb, or not own it, as it is called, confinement with it in one of those pens for a few days, will put all to rights. Particular attention should be paid to the bags of the ewes—and if found to swell and harden, as they will sometimes do, from a great flow of milk, a little before or after the lamb comes, they should be carefully drawn, once or twice a day, and brought to by a soft hand. It sometimes happens that for want of notice to this

simple fact, the lamb starves and dies in sight of plenty, without being able to touch a single drop.

Instances of this have come within my own knowledge. Care should be taken to keep the tails of the lambs clean at the vent for a few days after birth, as they are apt about that time to get coked there, from the glutinous nature of the first excrements—I would recommend that the tails of all the lambs of both sexes, be cut off within two or three inches of the root—in all for cleanliness; and as to the ewes there are additional reasons, one of which has been before given. This operation may be performed at eight days old, if mild weather, or as soon as the frost is over; at the same time the mark on the ear may be put on. As to the castration, unless in very cold or very hot weather, it is safe at any time, in skillful hands, from the age of eight days to three months, and the sooner the more safe—The lambs should be weaned at from four or five months old, at that age they can shift for themselves; and time should be given to the ewes to recruit, before they are put to propagate. As the season otherwise suits well, I make my lambs set for Independence on the 4th of July, in remembrance of our great national weaning—My overseer, who is an old soldier of those days, says it brings good luck. I do not suffer my ewe lambs to go to the ram until they are in their second year.

(To be continued.)

REMONSTRANCE OF THE VIRGINIA AGRICULTURAL SOCIETY OF FREDERICKSBURG.

Read in Congress, January 3d, 1820, and referred to the COMMITTEE ON COMMERCE.

To the Congress of the United States:

The remonstrance of the Virginia Agricultural Society of Fredericksburg, against the attempts, now making by our Domestic Manufacturers and their friends, to increase the duties upon Foreign goods, wares, and merchandize, respectfully represents:

That it is the indisputable right of every free people to petition and remonstrate, either individually, or collectively, not only against grievances actually inflicted, but against such also, as are either seriously threatened or meditated.

That hostility, resulting from true republican principles, to partial taxation, exclusive privileges, and monopolies, created by law, was the primary cause of our glorious and ever memorable revolution.

That, although most of us are only the descendants of those patriots who achieved that revolution by the lavish expenditure of their treasure and their blood; yet, that we inherit enough of their spirit to feel equal aversion to similar oppressions; at the same time, that we confidently trust, neither we, nor our sons after us, will ever be found backward or reluctant in offering up at the shrine of national good and national happiness any sacrifices, however great, which their promotion and preservation may obviously and necessarily require. But we have been taught to believe, that a parental government—a government founded upon the immutable and sacred principles of truth, justice, and liberty; if she required sacrifices at all, from those whom she is so solemnly bound to protect, would make them such as should operate equally upon every member of the community.

That we view with great concern, both nationally and individually, certain late attempts on the part of

various descriptions of domestic manufacturers, to induce your Honorable Body to increase the duties upon imports; already so high, as to amount, upon many articles, nearly to a prohibition. The increased cost upon some of these, may truly be designated a tax upon knowledge, if not a bounty to ignorance; such for example, as the duty upon books in foreign languages, and upon philosophical, mathematical, surgical, and chemical instruments.

That, although these attempts are sustained under the plausible pretext of "promoting National Industry," they are calculated, (we will not say in design, but certainly in effect,) to produce a tax highly impolitic in its nature, partial in its operation, and oppressive in its effects: a tax, in fact, to be levied principally on the great body of Agriculturists, who constitute a large majority of the whole American people, and who are the chief consumers of all foreign imports.

That such a tax would be a flagrant violation of the soundest and most important principles of political economy; among which, we deem the following to be incontrovertibly true:—that, as the interests of dealers and consumers necessarily conflict with each other, the first always aiming to narrow, whilst the latter, who form the majority of every nation, as constantly endeavour to enlarge competition; by which enlargement alone, extravagant prices and exorbitant profits are prevented. It is the duty of every wise and just government to secure the consumers against both exorbitant profits and extravagant prices, by leaving competition as free and open as possible.

That in this way alone, can the benefits of good government be equalized among the various orders and classes of society, the prosperity and happiness of which depend, not upon immunities, privileges, and monopolies, granted to one class or order at the expense of another; but upon the unfettered exercise of talent, skill, and industry, directed and employed in whatever manner, and upon whatsoever objects of pursuit each individual may select for himself: provided, always, that such object be not incompatible with the public good: for so to use your own rights as not to injure the rights of others, is not less the dictate of common sense and common honesty, than it is a cardinal maxim of all legitimate government.

That National Industry is best promoted by leaving every member of society free, to apply his labour and his knowledge according to his own choice, exempt from all restraints, but such as the public good requires; and burdened with no tax but such as shall be both impartial, and as moderate as the exigencies of the state will permit.

That, according to the natural progress of society, in every country favourably situated for agriculture, the class of Manufacturers is the last to spring up; but that it will necessarily do so, as soon as either the natural or artificial wants of the people create a demand for their labors.

That any legislative interference, to force either his or any other class into existence by the strong arm of power, exercised in levying taxes to support the forced class, contrary to the wishes and interests of the other members of the community, is not only bad policy, but oppression; because taxes of any kind to be rightfully levied, should be equal; and should be imposed, not for the emolument of any one portion of society at the expense of the rest, but for the support of government alone.

That, either to exclude Foreign Manufactures, or to tax them very heavily, under a notion of improving those of domestic fabric, lessens the profits of agriculture; diminishes the public revenue, either by augmenting the number of smugglers, or by enabling the domestic manufacturer to pocket that sum which otherwise would go into the Public Treasury under the form of an import duty; and at the same time secures to him the power of practising upon the community the double imposition of deteriorating his goods, and selling them at a higher price; because that competition which constitutes the only security of skill, industry, and moderate prices, is either entirely removed, or so limited as not to be felt.

"That all free trade, of whatever description, must be a mutual benefit to the parties engaged in it," notwithstanding the profits arising therefrom may be somewhat equally divided: because, by free trade alone, can supply and demand (the two circumstances upon which trade of every kind depends) be kept nearly equal to each other.

"That, instead of struggling against the dictates of reason and nature, and madly attempting to produce every thing at home, countries should study to direct their labors to those departments of industry for which their situation and circumstances are best adapted."

"That the use of capital should be left, as much as possible to the care of those to whom it belongs, because they will be most likely to discover in what line it can be employed to the greatest advantage."

And that the best regulated and happiest communities are those wherein the various trades, professions, and callings, enjoy equal rights, and contribute equally to the necessary support of their common government; but that if any one should be thought to have superior claims to the fostering care of the National Legislature, it should be "the tillers of the earth, the fountain head of all wealth, of all power, and of all prosperity."

The sagacious and patriotic Franklin has said, and we believe he never uttered a better or wiser remark, "that most of the statutes or acts, edicts, arrests, and placards, of parliaments, princes, and states, for regulating, directing, or restraining trade, have, we think, been either political blunders, or jobs obtained by artful men, for private advantage, under pretence of public good."

Your petitioners have thus freely, but respectfully, endeavored to represent to your Honorable Body, their views of a policy which you are so importunately urged to adopt; but upon which we should have said nothing, having due confidence both in your willingness and ability to protect the great landed interests of our country, had we not been apprehensive, that silence might possibly be construed into consent; if all who are attached to those interests had forbore to speak, when so clamorously and powerfully assailed. To guard against the possibility of misapprehension, we take this occasion to say, that we are incapable of feeling any thing like enmity towards either manufacturers, or any other useful description of our fellow citizens; but heartily wish them all the success to which their skill and industry may entitle them, in whatsoever way applied; provided always, that such application be not made at our risk, and continued at our cost. We will go farther, and pledge ourselves to prefer whatever they may manufacture, at any time that they will make the price and the quality the same with the quality and price of similar articles of foreign fabric. To give more for any article simply because it is made at home, may suit the feelings of political enthusiasm, but it can never promote the interests either of individuals or of nations. To buy as cheap as you can, no matter where, and to sell as dear, is the maxim which should regulate the commerce of both; for if competition be left free, neither can be exorbitant in their demands. We ask no tax upon manufacturers for our benefit; neither do we desire any thing of Government to enable us to cultivate the soil, as profitably as we could wish, but to leave us free, so far as it depends on them, to carry our products to the best market we can find and to purchase what we want in return, on the best terms that we can, either at home or abroad. We will ever support the government of our choice in all just and rightful undertakings, both with our fortunes and our lives; but we will never voluntarily contribute to maintain either manufacturers, or any other class of citizens by the payment of unequal and partial taxes; by awarding to them exclusive privileges, or by sustaining them in the enjoyment of oppressive monopolies, which are ultimately to grind both us and our children after us, "into dust and ashes."

All which is respectfully submitted.

Signed, by order of the meeting,

JAMES M. GARNETT, *President.*

WM. F. GRAY, *Secretary.*

"At a Meeting of the VIRGINIA AGRICULTURAL SOCIETY, of Fredericksburg, convened at the Farmer's Hotel, in the town of Fredericksburg, on the 29th December, 1819, by a special call of the President:—

"A Remonstrance, addressed to the Congress of the United States against the proposed imposition of additional duties on the importation of foreign goods, wares, and merchandize, was submitted and read, and, after consideration, it was

"RESOLVED, That the said Remonstrance be adopted as expressing the sentiments of this Society.

"RESOLVED, that the said Remonstrance be signed by the President and Secretary of the Society, and transmitted to the Honorable PHILIP P. BARBOUR, with a request that he will cause the same to be laid before Congress."—Extract from the minutes.

WM. F. GRAY, Secretary.

FREDERICKSBURG, January 1, 1820.

SIR: In pursuance of an order of the Agricultural Society of Fredericksburg, I herewith transmit you a copy of a Remonstrance, which has been adopted by that Society, with a request that you will lay the same before the Congress of the United States.

With much respect,

Your obt. serv't,

W. F. GRAY.

To the Hon. PHILIP P. BARBOUR,

House of Representatives, Washington City.

From the London Monthly Magazine, October, 1819.

VINEGAR FROM WOOD.

This new and useful article of commerce we wish to point out to our readers, as not yet sufficiently known, and but lately brought to great perfection. It is made in the large way at an establishment at Battersia, belonging to Dr. Bollman, 139, Sloane-street, Chelsea, of one uniform strength of fifty degrees by the new excise autometer. It is made under the inspection of excise-officers, pays a regular duty agreeable to its strength, by a late act of Parliament upon vinegar, and is sent out to purchasers with excise permits, expressing the strength and that the duty has been paid; this gives to purchasers every requisite security. The quality of this acid has been examined by many eminent chemists, for individual information; and by Dr. Hume, of Long Acre, for the Government Victualling Office; and by Dr. Chambers, of Dover-street, for the East India Company; and it is pronounced to be pure acetic acid, perfectly free from sulphuric and all other mineral acids, and from mucilaginous, earthy and metallic impurities. It is therefore, when diluted, perfectly wholesome with food, and may be used for all the purposes of vinegar with perfect propriety and safety. To merchants, chemists, vinegar dealers, dyers, calico-printers, picklers of fish, &c. this concentrated article will save considerable expense in freight and carriage, as it occupies six or seven times less bulk than common

or distilled vinegar; and by applying directly to the maker, it will be sent to them at any place, and regularly supplied, at a very moderate price; and also to large traders and consumers of this article, the great profit now made by its intermediate dealers will be saved. The acid of the above strength admits of being diluted with seven waters, or mixed, one part of acid with seven parts of water, which will reduce it to the strength of common distilled vinegar: it is then well qualified for pickling vegetables and fish; the latter, particularly, is found to be preserved longer with this vinegar, and to eat firmer and better, than with any other. This acid is bright and colourless as water; but it readily takes any colour or flavour, and when coloured and flavoured, to give it a fruit taste. At the establishment, it makes an excellent vinegar for table use, when diluted with five or six waters, and then its colour is like white wine: it has not the malt flavour, but is superior to it in taste, with this additional quality, that it will keep for any length of time, in any climate, without losing its strength, or becoming ropy and thick, or mothery, as it is generally termed. At sea it is particularly useful for the scurvy; and for all medical purposes it answers the uses of the best distilled vinegar, and makes the *ammonia acedala* in great perfection. Also for surgical purposes, where often a more concentrated vinegar is required that is found in the shops, it is eminently useful.

FROM THE PLOUGH BOY.

SIR,

The following extract from the American Journal of Science, conducted by Professor Silliman, may be useful to the Canal Commissioners, as well as to the others employed on our great canals.

"ON A METHOD OF AUGMENTING THE FORCE OF GUNPOWDER."

Extract of a Letter to the Editor, from Col. G. Gibbs.

"I employed last year a man in blowing rocks, and having seen an account of a method of substituting a portion of quick lime for a part of the gunpowder usually employed, I was induced to make a number of experiments upon it. I now send you the results.

"SUNSWICK FARMS, Oct. 19, 1817. I certify that, having been employed by Col. Gibbs in blasting rocks on his farm, I, by his orders, made use of a composition of one part of quick lime and two parts of gunpowder, and uniformly found the same charge answer equally as well with the like quantity of gunpowder. I made upwards of fifty blasts in this manner, as well as several hundred in the usual way, and can therefore depend upon the accuracy of this statement. I found, however, when the powder lime was mixed the day before, that the effect was diminished. It should always be used the same day it is mixed.

T. POMEROY.

"This preparation was generally made in the morning, put in a bottle and well corked, to prevent the access of the external air."

The rationale of the process Col. Gibbs supposes to be owing to the desiccation of of the gunpowder by the lime. The attraction of moisture by gunpowder is stated by Rees, to be upwards of 16 per cent. "I presume, therefore," says Col. Gibbs, "that the lime, which in its caustic state has a great affinity to water, attracts a portion of it from the powder, and leaves it in a state of dryness best fitted for inflammation. But if the lime were to remain too long mixed with the gunpowder, it would probably attach the water of chrySTALLIZATION of the nitre, and according to Count Rumford's idea, destroy a great part of its power." "It is well known that after a few discharges a cannon becomes heated, and the range is much greater as well as the recoil. The charge of powder is therefore reduced about one quarter, to produce the original effects. Col. Gibbs then states his opinion, that the increased effect of the powder is caused by its desiccation by the heat of the cannon. I have lately seen in a newspaper a method of increasing the force of gunpowder by adding to it a portion of dry saw dust. This operation probably must be accounted for on Col. Gibbs's principles. Perhaps other substances which would absorb moisture from gunpowder would have a good effect.

W.

From a new publication, entitled the Annual Philosophical Magazine, Number 1—Printed in New York by J. Seymour, we extract the following queries.

The Book-binder, as if to disgust and prejudice the public against the work in the outset, has deranged the pages as much as possible, and inserted a moderate portion of the work twice. *Edit. Amer. Far.*

QUERIES.

I.—Clouds are sometimes seen moving in one direction, while others, either above or below them, are moving in an opposite direction. Required the reason?

II.—What is the cause and consistence of the ignis fatuus, commonly known by the name of Will-with-a-wisp, or Jack-with-a-lantern?

III.—Has the wind any effect in retarding or accelerating the velocity of sound? And if so, what is it?

IV.—What is the most probable cause of that phenomenon in nature, called a water spout?

V.—It is found by experience, that gypsum, or plaster of Paris, loses its fertilizing properties on Long-Island, and the sea-coast. Query, the reason? Is it, on the contrary, affirmed by some, that if the farmer, on, or near the sea-coast, would apply four or five times the usual quantity, it would then prove beneficial. Can this be true?

VI.—By Mr. R. Tagart, New-York.—Required the reason why storms are generally prevalent about the times of the equinoxes.

VII.—What reason can be given why the

sun's rays should always prevent a fire from blazing up into a flame, and sometimes quite extinguish it, especially when passing through a glass window?

VIII.—Why do aromatic flowers emit a greater scent in warm weather, when wet with a shower of rain than when they are dry?

IX.—Required, the most convincing proof of the soul's immortality?

X.—Had the heathen world any glimmering of light of a Redeemer, as was given to Abraham and his offspring?

XI.—As our Lord and Saviour, Jesus Christ, was entirely the pattern, or mirror of humility, and the "Prince of Peace," how then are we to reconcile his own words with this, when he says, "Think not that I am come to send peace on earth; I come not to send peace but a sword." Matthew, 10th chapter, 34th verse.

XII.—In the ninth chapter of Genesis, mention is made of the bow in the cloud, which we understand to be the rain-bow, then appointed by God as a token of his covenant, that the world should not again be overwhelmed by a deluge. Shall we thence infer that there was no rain-bow before the flood?

OCCASIONAL EXTRACTS,

FROM CORRESPONDENTS.

TO THE EDITOR OF THE AMERICAN FARMER.

MR. SKINNER,

I send to you 16 Turnips, two each of eight varieties, not on account of their size, but to show a perfect character of each variety, for I have of them more than twice as large. How they obtained the size they have is truly wonderful, for in the article of rain we stand thus:—27th of August, a clever rain, 25th of September, a slight shower, 29th a good rain, 17th of November, a slight rain.

I have long desired to obtain a few seed of the true Rhubarb (*Rheum Palmatum*.)

Could you not obtain from Spain, the Rope

* The *Rheum Palmatum* or true rhubarb, is a native of Thibet mountains in Tartary, and was introduced in England about 60 years since—where the chief obstacle, in obtaining rhubarb, of a quality equal to that imported, is said to consist in the difficulty of curing the root—but this difficulty was in 1810 nearly overcome, and no doubt will be entirely surmounted by further experiment.

It is said that at the time above mentioned, 200,000 pounds sterling was annually paid for imported rhubarb; but a great part of this must certainly have been exported.

The plant arrives at its most perfect state in 6 or 7 years, when every 5 pounds of green root will give one pound of rhubarb.

Rhubarb plants are set out at 5 or 6 feet distance and some roots have been known in England to weigh 70 pounds.

In 1798, Mr. Jones, of Fish-street-hill, London, obtained the premium of 30 guineas, for having raised and planted out 3000 plants of true rhubarb. If any subscriber wishes, we will give further account of its culture, &c.—*Editor.*

Grass (Meleca Retuns) called by the Spaniards, Sparta (Stipæ Tenecissimæ), grows on sand hills—it would be valuable on the sands of both our shores, and in the Carolinas and Georgia. What can you tell us about fish ponds, as to the method of constructing the Dam and gates, to hold and draw off the water? I have for many years, paid strict attention to my wood lands, and now pride myself upon a luxuriant growth of young trees, for much of which I feel myself indebted to the crows. My Yellow and White Pines, which at some period, will furnish masts and spars for our navy, have been planted by my own hands and are very flourishing; but in the nut kinds, I have been unfortunate. In order to give appearance to this estate, I straighten the crooked and irregular clearings, and if I have to clear some fresh land, I have to throw out some which is cleared. In 1817, I planted five pecks of Shell-bark Hickory; mice and squirrels did not leave me more than one in eighty—this last Spring, made a second trial; I planted six pecks of chesnuts carefully rolled in tar, and separated by plaster; about 700 growing. Squirrels again. I have now three bushels of Chesnuts, barrelled up with alternate layers of dry sand. These shall be planted in February and March, in boxes six inches deep, settled in the ground—in the Spring of 1821 as I am at present only in my sixty-second year) I will transplant with the dibble as we plant cabbages.

I have cut the enclosed† from an old newspaper. Can you not rouse the Baltimoreans to follow the example of New-York, Philadelphia and Charleston (S. C.)? Your climate gives a decided advantage. But WHY NOT A GREAT BOTANIC GARDEN AT WASHINGTON, one acre for each state?

My Cork tree, five years from the acorns more than eight feet high; an English live oak, and a pestachicho nut tree, flourish equal to any tree of the forests. I conclude by assuring you, that I am greatly pleased with your paper, which I hope may prove profitable to you, as it is useful to our country.

Respectfully, your

Ob't servant, F.

† FOR THE TELEGRAPHE.

Mr. Dobbin,

Permit me to express through the medium of our useful paper, the infinite satisfaction which has been produced by the repeated hints, recently published; tending to delineate the many advantages which would be derived from a Botanic Institution, and although I know that our impressions on such occasions are generally accompanied with vain imaginations—yet in this case, was a proper Botanist to come forward, and by the exercise of his skill, accompanied with public or private support, I have no doubt, that in time, the contemplated garden would be so far perfected, that the patronizers would realize what would surpass even the most sanguine expectation. I therefore wish, for the innocent amusement of the present, and instruction of the future generations—that a gentleman who has been taught Botany would tender the public his services—for I perceive the subject is becoming increasingly the topic of the day, particularly amongst those who have had opportunity of scientific improvement.

I am, sir, Your most obedient servant, P.

March 30, 1805.

P. S. I enclose you a receipt for Cyder Wine—I have drank of it 8 years old, which could not be distinguished from Tokay 50 years old.

RECEIPT FOR AMERICAN TOKAY.

A barrel of good new Cidar from the press. Let it ferment, carefully brushing off the froth as it comes out of the bung hole. When the fermentation ceases, draw it off and add as much honey as will give it strength enough to bear an egg; return it to the barrel, which should be first washed clean. It will now undergo a second fermentation, which must be treated as the first, and when that ceases, add half a gill of French or peach brandy, for every gallon. Bung it tight and so let it remain until the March following, when in a calm, clear and dry day, it should be bottled.

F.

MR. SKINNER—The necessity to husbandmen of a knowledge of what may be called Agricultural Chemistry, is every day becoming more evident; independent of the advantage of becoming acquainted with the nature of the soils he has to cultivate, it enables the farmer to ascertain the quantity of nutritive matter existing in what he grows. He is thus, without the process of actual feeding, capable of determining what is the best food for his stock, and he is at once constituted judge of what grains, grasses, roots, &c. is most to his advantage to cultivate, without running the risk of disappointment, which he cannot avoid, if he be governed by most opinions promulgated on agriculture, the authors of which are too often influenced by prejudices contracted in various ways, which blind them to the merits or demerits of what they oppose or advocate. But I am not insensible of the advantages derived from works on agriculture, and I would not be understood, that Agricultural Chemistry should supercede attention to what has been and will be written on husbandry, but that it should answer as a test of the correctness of the practice wished to be inculcated by authors. The interests of agriculture have been much advanced by many who have written, and by none more than by the worthy and philanthropic sage of Belmont. Judge Peters is incapable of writing any thing on farming which will not benefit the agricultural community, and we have very much to regret, that the medium through which his communications reach us, should deem it best to keep us so long ignorant of them, and other valuable papers. In this respect the Agricultural Society of Albemarle, Va. has given a laudable example, by the use they have determined to make of your valuable paper.

Agriculturists possess too little enterprise and disinterestedness—they are willing that a few individuals should be at the labor and expense of all improvements in

the science. They thereby justly incur the imputation of dullness or parsimony; while those whose zeal and benevolence induce them to experiment, and publish the results, are too seldom awarded the deference of an attentive perusal.

In a former communication, I offered my brethren of the plough some remarks on the value of the Ruta Baga, which has claimed much of their attention, as an article both for domestic use and for market. I shall continue my efforts in this way, however feeble they may be. I hope they may induce others more capable to investigate for themselves, by which they can confirm or confute my observations, as they are correct or fallacious.

I have acquired a little smattering of chemistry, and have analysed the cobs of corn, and the small yellow pumpkin; the results are, that corn cobs contain one-twentieth their weight of nutritive matter, and pumpkins one-twenty-fifth their weight of matter nutritive to animals. If my analysis be accurate, it will then appear that farmers, generally, are in the habit of throwing away an article, (cobs) preferable, as food for stock, to common turnips, and nearly equal to Swedish turnips.

I should be gratified if some of your correspondents would inform me, the cost of oyster-shells per bushel—the difference in bulk before and after burning—the quantity of fuel necessary, and the most economical method of burning them, as well as the best mode of applying the lime to land.

A SUBSCRIBER.

[The very useful hints and information, which have been given by a "Subscriber," and the benevolent spirit which manifestly prompts him, give him a claim upon those of our readers who have it in their power to answer whatever he asks; and we trust they will not hesitate to reciprocate his good offices. It is by this mutual interchange of opinions, and free communication of what experience has taught us, that the common stock of human knowledge accumulates—that our errors are rectified, our sufferings meliorated, and our social comforts are promoted.—EDIT.]

Virginia, December 12th.

Gabriel Plat, in his discovery of hidden treasures, mentions an implement called from its use an *Eradicator*, on my recommendation a friend has used it, and informs me that it answers well; it must save a great deal of labour in grubbing up roots, besides doing the work more effectually.—On the other side, I send you the description of it, for publication.

THE ERADICATOR

Is a very large and strong three pronged fork, which as a lever, by the assistance of a block is able to tear up any thing. The bigness of it is so much more than a dung fork, which it most resembles, that it seems improper to call it by such a name; whereof, I have given it another. It is to be thus constructed; the

handle must be a long thick beam, its length fifteen or sixteen feet, and its thickness, such as will keep it firm against a great deal of force; the tines or prongs should be twenty inches long, notched at the sides, and a little leaning upwards; and they must be joined to a strong shoulder of iron, with proper fastenings for the end of the pole, this being carefully fastened on, the person who works it must fasten a rope six or eight feet long to the other end, and take with him a thick block of wood, and a heavy wooden beetle or maul. When he comes to the first shrub, or root, he must force in the three prongs, slanting into the ground, so that they go under the root, and the top of the pole be somewhat higher than his head; then with good strokes of the beetle, he must drive it well in, till the tines are quite in the ground; he is then to lay the block under the pole, near where the tines are; this will raise its top ten or twelve feet high; and he is then to lay hold of the rope and pull with all his force. Those who know what the effect of the lever is, will be sensible no root can keep its place against this; it will tear up the most firm, and in some kinds will draw out fibres of seven feet in length.

THE FARMER.

BALTIMORE, FRIDAY, JANUARY 14, 1820.

Doctor Muse's memoir, on the *modus operandi* of Plaster of Paris, read before the Agricultural Society at Annapolis, and ordered to be printed in the American Farmer, will be presented, if possible in our next number.

The 5th number on Hedging, from friend Kirk of Delaware, ought to have appeared in this paper, but it was found impracticable to get the engraving done in time. Speaking of engraving, we owe an apology to our readers for the one exhibited in our last.—If we had been aware of the clumsy style in which it was executed, it would not have been suffered to disfigure our columns.—It is but matter of justice to Mr. Throop, the young gentleman who usually engraves for the Farmer, to say, that it was not done by him—it was furnished by the Patentee.

Further Extracts from a Compendious Dictionary of the Veterinary Art.

[Continued from No. 31, p. 246]

CASTING. A term used for throwing down a horse or bullock. The mode of casting a horse has been minutely described and illustrated by a plate in the fourth volume of the author's *TREATISE ON VETERINARY MEDICINE*, where all the principal operations of farriery are likewise described; but the method commonly practised for throwing a bullock is somewhat different.

Take a long rope, double it, and tie a knot about a yard from the end, so as to leave a

bow of sufficient size to go round the bullock's neck, which being put on, the two ends are to be brought between the fore-legs and round the hind pasterns, then back again and through the bow. By standing in front of the animal, and drawing up the ropes quickly, so that his hind-legs may be brought up towards his chest, he is easily thrown down; while in this situation, the ropes are to be secured, and then any operation may be safely performed.

CATAPLASM, or POULTICE. This application, when designed to promote suppuration in a swelling, or remove inflammation occasioned by a blow, is best made by mixing together three parts of fine bran and one part of linseed meal: pouring a sufficient quantity of boiling water upon the mixture, to bring it to the consistence of a thin paste; and confining it to the part in such a way, that no swelling shall be caused by the bandages. A poultice should always be renewed once in twelve hours; for when it approaches towards dryness, it tends rather to aggravate than remove the disease for which it has been employed. In the accidents which usually occur to horses, there is generally difficulty found in securing poultices, without making so much pressure by the bandages employed as to cause swelling, and rather defeat than promote the intention for which they are used: on all such occasions it is best to trust to a frequent application of warm water, or any thing in the form of fomentation; such as a decoction of herbs, or things commonly employed for the purpose. One thing should always be observed in the application of poultices; that is, the method by which they are fastened; perhaps there is nothing better for the purpose in diseases of the lower parts of the limbs, where they are most commonly required, than a worsted stocking, kept up by the list or flannel bandage, &c.

CATARACT. An incurable disease of the horse's eyes, consisting of an opacity, either total or partial, of a part which is naturally transparent. I call this disease incurable; because though we can, as is often done in the human subject, remove it by an operation, such an imperfection of sight would remain as to render the horse more dangerous to ride than if he were quite blind. Some reasons, however, may be adduced for occasionally attempting the removal of cataract; but I fear that any attempt of the kind would generally prove fruitless.

I cannot, however, dismiss this article without observing, that the *partial* cataract sometimes met with, in which there are only one or more small opaque spots in the pupil, so situated as not to prevent materially the admission of light to the retina, is not of so much consequence as it is often supposed to be. As the eye is so important an organ to the horse, so liable to injury, and when diseased renders him so useless, we may say dangerous, to the rider, the subject will be more amply treated of in another part.

CATARRH. This is more familiarly known by the term cold, and is a disease which happens more frequently perhaps than any other. It is generally caused by exposing a horse to a current of air, or to a cold wind or rain; and is more likely to be produced if the animal has been previously heated by exercise, or accustomed to a warm stable and warm clothing. The most common symptoms are cough, dullness of the eyes, which are sometimes inflamed and watery, and want of appetite either for food or water. In more severe cases the throat becomes sore, so as to render swallowing difficult; and sometimes the glands under the jaws, as well as those under the ears, are swollen. These symptoms are commonly succeeded by a discharge of matter from the nostrils, which is generally beneficial. In slight cases there is scarcely any alteration in the pulse or appetite; but sometimes there is a considerable degree of fever. In the first volume of my *FARRIERY* I have recommended early bleeding, and observed, that if it is delayed until a discharge from the nostrils has taken place it seldom proves beneficial. I have here however to remark that subsequent experience has proved to me, that whenever the disease is severe, the cough very troublesome, and especially if the pulse is unusually quick, bleeding will afford much relief, however considerable the discharge from the nostrils may be; and that when bleeding is employed at an early period of the complaint, it should not be done sparingly, unless there be such a degree of weakness as to render it evidently improper, which is very seldom the case; for by taking off four or five quarts of blood at once, we save much trouble, and render the disease mild and of short duration. Should the symptoms not abate in two or three days, the operation is to be repeated. If the bowels are open, the only medicine necessary is the fever powder or ball twice a day, composed of

Nitre, one ounce,

Emetic tartar, one drachm and a half, or two drachms.

But it must be observed, that whenever there is any degree of soreness of the throat, much harm may be done by endeavouring to give either a ball or drench, particularly the latter. In such cases the medicine should be put into the horse's mash; but if it appears to prevent him from eating it, let the medicine be omitted. (SEE QUINCY.) If the horse is costive, or even if the dung is at all hard, give a laxative. The head should be steamed with hot bran mashes, and kept warm by means of a hood; the legs also should be kept warm by rubbing and flannel bandages. The horse must be treated rather carefully after the disease appears to have been in a great measure removed, or it may return, and a chronic cough will probably be the consequence of such indiscretion. Catarrh is sometimes epidemic, that is, appears to attack horses in every part of the country without any known cause: this will be treated of under the head INFLUENZA.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolos." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, JANUARY 21, 1820.

NUM. 43.

AGRICULTURAL.

FOR THE AMERICAN FARMER.

ON HEDGING, No. 5.

By CALEB KIRK, of Delaware.

[Continued from No. 26, p. 204.]

Having preferred plashing to any other mode that I had seen made use of in training a hedge, I began the process when the stalks were about an inch in diameter near the root, and from that to an inch and a half; if well attended to in their previous growth, they will attain that size in six or seven years after they are planted, but neglected they may require double that period. It may be observed that no advantage is gained by plashing before a good root is formed, or that is the future support and basis of the superstructure by having a good strong root, the cutting and wounding the top or body of the stalk will soon recover any injury received in the necessary work of plashing, which is done by cutting the body of each stalk with a hedge knife or pruning hook, bending the stalk with one hand in the direction it is to be laid, at the same time by a stroke with the knife with the other, about four inches from the surface of the ground. One stroke should not prove sufficient a second or third may be applied, being careful to leave as much of the wood uncut as to afford the sap a chance to flow into the top, and yet to bend easily into an inclined position of about forty-five degrees elevation, from the base or bank on which stands, one third or one fourth of uncut wood sufficient to supply sap to the plashing, which must bend easy, otherwise it would incline to set out of the proper degree of inclination. Much depends on this circumstance in forming a good and uniform hedge—the plashing should not press one upon another so much as to prevent a free and unobstructed circulation of air and the sun's rays also, as the health and vigour of the plashing is much promoted thereby. If there should be more wood in the hedge by planting too close or from any other cause, it must be cut away, leaving no more, than what is really necessary to form the basis of a good and lasting live fence. (see the drawing on the next page.) One of my errors was suffering too much bushwood to be crowded into my first laid edges, both living and dead—brush-wood, such as was cut away, in some places where too thick, as filled in where too thin; and in order to make a present fence I was induced to suffer it to be done in this way from the recommendation of my hedger, who was from the west of England, and had been in that practice for the immediate making of a fence of such materials as he had to do with. I readily gave his judgment the preference, he having had experience in the business.

But my observations in two or three years more, convinced me of the impropriety of introducing dead wood to fill every vacancy, as well as crowding too much of that which was living. I had much of it to remove in places where a want of health demonstrated the present evil. After this was done the remaining part became more healthy, but still continues thin and never will overcome the injury, there seems to be no inclination to put out shoots from the old wood in those vacancies—which would have put forth shoots when newly laid, if no obstruction had been present.

I find it is best to trim off the branches, especially the large ones, though not very close to the body of the stalk—it shoots young sprouts more abundantly from the plashing, which rise in an upright form; these as well as those from the stumps shooting up through the plashing, interlock the whole together, and holding the plashing in their places as cross bars, form a kind of lattice-work. On the contrary, if the plashing is too crowded, the shoots rising from the stump will evade the thicket, and push out in a lateral direction, endeavouring to gain the benefit of sun and air, and rise on the outside where they are injurious instead of beneficial; by excluding the plashing from the benefit of sun and air, the sap no longer inclines to the plashing, but flows freely into the suckers on the outside.

I have been more particular on this point, having seen errors in others, as well as my own, on that head.

Previous to laying a hedge, a quantity of stakes are to be provided about four feet and a half long, if it stands on a bank, or a little longer if the ground is not elevated, and split as small as they will bear to drive about one foot in the ground; they are to be driven through the plashing occasionally, as the work progresses in a straight line two feet and a half or three feet distant from each other, as in figure A; those stakes are driven through the plashing, so as to keep the laid part directly over the stumps for reasons before given, (the shoots rising immediately through the plash,) those stakes are bound in their place by wattles or poles, prepared of alder or willow, or any thing that will not in future make useful timber, as their use is only temporary, until the hedge becomes set by growth.

This binding has the appearance of a twisted rope; if rightly done it steadies the heads of the stakes, keeps them in a direct line, serves the purpose of holding straggling shoots, that may be directed within it, and confines the top of the hedge, holding it steady for trimming until its own growth gives it stability.

The next year after being laid it should be examined, and any shoot that inclines to leave the right direction should be cut away, unless there is a vacant spot to receive it, then it ought to be introduced into such vacancy by frequently

trimming the superfluous branches off, the body becomes more dense and impenetrable.

About five years past I adopted the summer trimming about the middle of 6th month, (June) and found it much easier to accomplish while the shoot was in a tender state, and have regularly done the trimming in that and the following month ever since, finding the labour much easier performed, and no bad effect on the hedges, though warned by some to the contrary, who apprehended bad consequences from cutting at that season.

The present season has been excessively dry and warm, yet I have not discovered the least injury—they have held their foliage as well as usual.

My conclusion has been that by cutting when the sap is in full flow, and taking away the small shoots that were carrying off a considerable portion for their support, that portion must diffuse and spread through the whole body of the hedge, and add strength to every remaining part.

The foregoing remarks will apply to either kind of thorn as it regards the treatment of them, but the Virginia kind has advantages though not so rugged in appearance as the Delaware—they are more uniform in their growth, and give great regularity and uniformity to the hedge. But what is very important is their inclination to send out an abundance of shoots or suckers, not only when cut from the stump, but for the plash also; the latter is not the case in the Delaware thorn, they seldom afford shoots out of the plash, except where the top is cut off; there suckers will rise.

To obtain a regular distribution of shoots from the plashing, we must be mindful to give every stalk laid a proper degree of slope as before observed, for by this means they are apt to rise on the body of the plash, whereas if too much elevated the sap flows to the head, and produces a cluster at that point; and if laid too much in a horizontal position, the sap not being disposed to follow it, will produce suckers from the stump only, and leaving the plash without sufficient nourishment to become useful, it must consequently decline.

It will be readily understood that the more general we can direct the flow of sap through the whole body of the hedge, the strength and uniformity will be thereby promoted, becoming healthy in all its parts. After that object is obtained, all that is necessary is the keeping it in proper limits by trimming.

The drawing lettered A represents a section of newly plashed hedge, divested of foliage, after having formed the first shoots from the old stalks, making the first effort to fill the vacancies, and seven years old before it was cut. That lettered B represents a section of one that has been laid seven years, and annually trimmed, being in full foliage at the time the

drawing was taken. The former showing the skeleton of a hedge, that may be useful to demonstrate the subject in that stage of its progress to maturity. Figure C represents the end of the section B, showing a correct view of the shape, which I preferred for the forming a hedge the most impenetrable at the bottom; those views are elevated on a bank from a foot to eighteen inches high, which was formed from repeated dressing, as they required fresh earth to cover the grass about the roots, which retards their growth in a young state remarkably, if not kept down. This elevation gives the hedge a much more forbidding appearance to ungovernable animals.

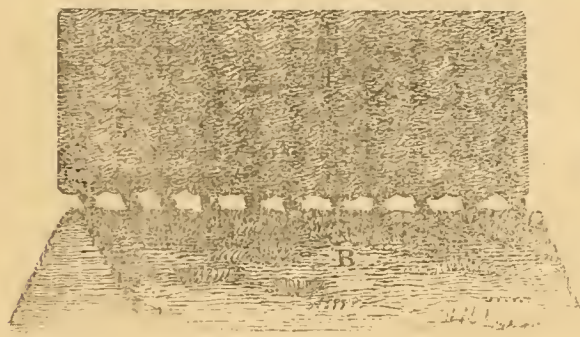
The trimming may be done with a hedge knife, about eighteen inches long with a hooked point used with one hand, or with any other sharp light tool that may best suit the operator, making the stroke upwards rather than downwards: the root being secure in the ground, the plants will not give way before the stroke, as they would in making it downwards. The last trimming made

on those specimens were done with a common grass scythe, as the mowers were cutting the grass enclosed in the field. I found by applying the scythe to the hedge it was an expeditious mode, though rather unhandy to strike upwards, but a little practice overcame the difficulty.

After viewing those specimens of hedges produced by the foregoing mode of management and in a given term, it will be information to some, I have no doubt, sufficient to determine their choice, whether a dead or a living fence is to be preferred.

I made the choice upon an imaginary view without having advantage of ocular demonstration, and without any idea of the comparative expense, or even attempting to make any calculation on the subject, as I had made up my determination preferring a live fence.

There is now some data to form an estimate upon, and the subject is of such a nature as to require a series of years to gain the desired object, yet I have a confidence in believing it can be ascertained with much correctness.



FOR THE AMERICAN FARMER.

PROCEEDINGS
OF THE
Agricultural Society of Maryland.
No. 2.

On the *modus operandi* of Plaster of Paris.
Cambridge Nov. 20, 1819.

DEAR SIR: In compliance with the request, which you have done me the honour to make of me, I venture to offer to the intelligent and liberal society, over which you preside, an hypothesis upon the *modus operandi* of gypsum, with a confidence, founded more upon that liberality, which they have before evinced, than upon any merit to which it is entitled; in this attempt I am aware of the usual repugnance of practical farmers, to inquiries of this nature, from the prevalence of a sentiment adverse to theory and hypothesis.

That practice and experience teaching useful

facts, are essential to the knowledge of agriculture, is admitted; but it is equally obvious, that a systematic arrangement, and accumulation of these facts, whereby a set of elementary principles may be collected and established, will enable us to derive more knowledge from the same experience, for thus we may refer to their proper causes, those phenomena of vegetation daily presented to us, and *a priori*, to anticipate the result of a project, predicated upon those settled principles, with confidence; these elementary principles combined, conduct us to a system, and this system will involve a theory: and though, from the fallibility of the human mind, we are liable to theorise falsely, by unfair comparisons, and deductions unauthorised: yet we find in this, no sound argument against theory and hypothesis, which, though frequently erroneous, lead us ultimately, by those very errors, which are gradually and necessarily developed, in the course of investigation, to the final truth desired. The annals of every art and science

record the truth of this sentiment; the best interests of agriculture require its adoption, and call for a free and liberal discussion of agricultural questions, as well as a communication of facts; which means combined, if we look to other branches of science, have accompanied their progress, *fieri jussu*, to their present high state of improvement.

In my attempt to inquire into the *rationale* of the action of plaster upon vegetation, I will first, cursorily examine the most current and popular hypothesis, and suggest their defects; and secondly, propose a new one which will explain most of the phenomena which have been noticed, in the use of plaster.

The most popular hypothesis of the *modus operandi* of plaster are,

- 1st. That its efficacy is derived from the septic powers of the compound (the sulphate of lime.)
- 2d. That its sulphuric acid produces this effect.
- 3d. Its power of attracting moisture from the air, is assigned as the cause.
- 4th. The hypothesis of professor Davy.

The learned president of the Philadelphia Agricultural Society, who has so eminently contributed to the stock of agricultural knowledge in this country, and has received a well-merited applause for his exertions in that department of science, as well as in others, maintains the opinion, that gypsum is septic, and that its fertilizing powers are derived partly from this property, and partly from its sulphuric acid. In the memoirs of that society, vol. 3, p. 299, to prove that it is septic, he applied at the same time, to two heaps of unrotted vegetable substances, different proportions of plaster; that, to which he applied the least, rotted; while the other continued sound, from which he inferred that an *overcharge* was antiseptic, and that a small quantity was septic; but in the same page he says, "no more of the plaster will act than the materials necessary to co-operate with it, require: the balance (i. e. I suppose the *overcharge*) remains in its original state of composition, inert and useless"—here is an error in fact, or in reasoning, so obvious as to need no comment.

He (Judge Peters) denies the accuracy of professor Davy's experiments, which go to prove the antiseptic powers of gypsum; but as Dr. Darwin also, has long since proved, that sulphuric acid, in most of its combinations, will not only resist putrefaction, but restore a substance, in which it has actually commenced, we must insist on the professor's correctness, and that Judge Peters has erred in assigning to it septic powers.

Dr. Darwin, in his *Phytologia*, p. 206, explaining the phenomenon of sulphuric acid combined with clay, counteracting the process of putrefaction, says, "this, it may effect by uniting with the ammonia generated in putrefaction, or by preventing its production." Then, similar affinities will produce the same effect, when the gypsum, or sulphate of lime, is brought into contact with putrescible substances; and though it may be said, that ammonia has less affinity than lime for sulphuric acid as well as other acids, this is the case only in a state of great purity: for we find in Fourcroy's Chemistry, vol. 2, p. 159, "cretaceous ammoniacal salt, likewise decomposes selenite by double affinity; while the vitriolic acid seizes the volatile alkali, the lime combines with the cretaceous acid," then it is manifest that sulphate of lime must resist putrefaction; because, the cretaceous (carbonic acid generated in this process, is constantly present with the ammonia, to act upon the base of the plaster, and enable the sulphuric acid to seize the ammonia, and thus, by double affinity, produce the same effect, in counteracting putrescence, as the sulphate of clay (by the instances quoted) is known to produce by the single affinity of the acid for ammonia: hence it follows, that the septic property assigned to the compound, as well as to the acid alone, is not possessed by either, and the doctrine founded in the error, is erroneous.

The power of attracting moisture from the atmosphere has been assigned as one of its operative qualities.

On this point, experiments seem to be conclusive; but its adhesive attraction for humidity is very considerable; but that when combined with it, its cohesion is so strong as to make it difficult of separation, and consequently useless in this respect to vegetation.

The opinions of Sir H. Davy are not satisfactory on the subject, as they are on others which he has attempted; he supposes that gypsum, alkalis, and various saline substances, which act in small quantities, and which are thought by many physiologists to be of the same use in the vegetable economy, that stimulents or stimulants are, in the animal, are actually a part of the true food of plants, and that they apply that kind of matter to the vegetable fibre, which is analogous to the bony matter in animals; he says that he has found gypsum in its natural state decomposed in all those plants which seem most benefited by it, and that he has uniformly found it in soil, when the application of it had not been advantageous; and had not found it, on the strictest analysis, in those, where the application of it was beneficial.

It is very perceptible, that there must be an error in the professor's facts, or reasoning; because its presence in a soil, where he found its application not advantageous, should have operated as powerfully as its application to soils, in which it was absent; yet we find by daily experience, that some most barren soils become productive by the use of it; but those in which there was already a sufficiency, and on which it will not operate, should be, (according to the professor's theory,) equally productive with those which were improved by its addition; which is not universally true, and therefore, incompetent to solve the phenomenon of its operation.

In hazarding an hypothesis radically variant from the avowed principles of such learned authorities, I am conscious of the risk of incurring the charge of presumption; but equally conscious of the candour and liberality of those whom I address, and of the utility of a free, unrestrained discussion, leading to new experiments, and these, in turn, to new discussion, in the progress and diffusion of science, I venture to offer the following proposition, *scilicet*.

That the chief, if not the whole cause of the efficacy of gypsum in promoting vegetation is to be found in its tendency to become phosphoric."

The truth of this proposition rests fairly upon the result of three inquiries, *scilicet*

"Does gypsum become phosphoric?"

"Does phosphorus exist in vegetables?"

"Do phosphates promote vegetation?"

If phosphorus is found uniformly in certain vegetables, it may be presumed to be essential to their constitution, and if gypsum become phosphoric, it may readily impart to them this essential matter; and if it does, facts known to us all, authorize me to assert; and to this property, may the chief, if not the whole of its fertilizing virtues be referred.

1st. From repeated experiments of Mr. Du Fay, who asserts that all calcareous stones become phosphoric by calcination, whether they contain a fixed acid, or not, but that those which contain a fixed acid, as gypsum, become more readily so, and in a greater degree.

Margraaf witnessed similar facts; Dr. Darwin repeats the same assertion and expresses a belief, that the fact may be useful in explaining the operation of gypsum.

Fourcroy says (in his elements of chemistry, vol. 2. p. 157,) that selenite (plaster) placed on a hot iron, becomes phosphoric, a property, which is common to all "calcareous salts." If then calcareous earths containing fixed acids, (i. e. calcareous salts) become phosphoric under such circumstances, it is reasonable to deduce by analogy, the same result in its exposure to the atmosphere, and that in a short time this result would happen, earlier or later, as the particles of plaster might be more or less divided and thereby exposed to the united action of heat and air, the essential agents of calcination; could be regulated, too, by many peculiarities of the soil on which it was placed; if dry and warm,

its action would be hastened; if wet and cold, it would be retarded if not totally prevented; because heat accelerates the process of calcination, on which, as we have seen by authorities quoted, depends its phosphorescence: its action would be promoted highly, by previously spreading on the field, or on the slightest dressing of hot recent dung; and by spreading the plaster on the surface, rather than by turning it in; for thus, the agents of calcination, heat and air, have freer access to it, and will necessarily produce a more immediate influence: as in the instance of metallic oxids, which are produced in a shorter time, by increasing the heat, but the same result, it is well known, may be produced in the latter, though in a longer time, by exposure to the open air, with its ordinary temperature; to this it may be objected, that the elective affinity of calcareous earths, for carbonic acid, would, by exposure to the air, render them carbonates, and not phosphates; but it is known, that when combined with fixed acids as in plaster, that strong affinity is counteracted, which is proved by Bergman's table of affinities.

From the above considerations it is reasonable to believe that plaster when ground and spread on earth, which is dry and warm and containing no substance capable of resisting the process, will readily become phosphoric.

Secondly. That phosphorus does exist in vegetables, we are informed by most of the authorities before quoted, by Margraaf who first detected it: Fourcroy in his elements of chemistry, vol. iv, p. 135, says, on the subject of the residues of burned plants, "an accurate analysis, such as has not hitherto been made, may show that this supposed earthly substance (i. e. the residue, after the saline matter is washed from ashes) is calcareous phosphate." Lord Dundonald in his connexion of agriculture and chemistry, page 25, asserts "that the insoluble part of vegetable ashes is phosphate of lime;" and Dr. Darwin, who says that it has been detected in every kind of vegetable substance, in various proportions, supposes, "that one great source of this elementary substance in vegetables, is calcareous earth;" from such authorities, and others which if necessary, might be adduced, it may be assumed as a truth that phosphorus does exist in vegetables, and if not universally, at least so generally, as to render it absurd to believe, that it is not essential, or useful to them, as an article of their food and sustenance.

That phosphates operate powerfully in promoting vegetation, no doubt can be entertained upon examination of facts. Dr. Davy informs us, "that in the neighbourhood of London, bones after having been broken and boiled for grease, are ground and sold to the farmer;" this bone dust is chiefly phosphoric acid and lime, and to the former of these substances must be ascribed the virtues of the manure, because lime, in so small quantities, is notoriously of but little or no value; in all the most powerful manures, which the farmer is acquainted with, phosphorus has been found in large proportions; in the excrements of animals; in dung, urine and bone dust, and in the residuum of vegetable ashes; in the two latter, which are both chemically the same, (phosphates of lime,) no substance is found, except phosphorus, as we have just seen, to which their operation notoriously powerful, can possibly be referred, and we cannot avoid attaching to this elementary article, an importance, which it has not heretofore been generally allowed to possess.

From this view, then, it is to be deduced, that all substances which contain phosphorus or which are capable in their nature, of becoming phosphoric, and which are found from experience, to be good manures, derive this quality, from this substance, either in the whole, or in the very considerable degree.

It may be asked then, why does not plaster in all situations, in every earth and atmosphere, impart this nutriment to vegetables? and why does it actually deteriorate some soils, a fact well known to many farmers?

In answer to such queries, I may say that similar phenomena are familiar to every chemist; that decomposition and changes in the nature and qualities

of substances may be promoted or counteracted, by the presence of agents apparently simple and important. In some instances, those which counteract or promote the operation of plaster, are known; in others, not yet ascertained.

In ferruginous soils, it is sometimes injurious; a reason may be offered, *scilicet* the oxid of iron is not offensive to vegetation; the salts of iron are highly pernicious; hence the application of plaster to ferruginous soils may deteriorate the soil, by converting the oxid into a salt or sulphate of iron; which might occur, if there happened to be present any substance which was capable of decomposing the plaster; as for instance the oxalic acid, which naturally abounds in wood-sorrel, in peat moss; such concurrent causes might render plaster pernicious.

In pure clay, the sulphuric acid of the plaster, forming a sulphate of alumina, though not chemically injurious, yet might operate mechanically, to the injury of vegetables, by rendering the earth hard and impervious to their tender fibres; this might happen, were there present any solvent of plaster. It is said, that the presence of sea or salt air destroys its operation, which it is alleged happens by a double affinity; *scilicet* that the sulphuric acid of the plaster seizes the base of the salt, (soda) and the muriatic acid of the salt attaches to the lime; but I deny that this decomposition, were it to happen, could destroy its efficacy, because, as I have proved, all calcareous earths, combined with fixed acids, become phosphoric; and for reasons given, the new compound must promote vegetation; and in confirmation of this fact, professor Davy names the county of Kent in England, as the place, where the plaster has most fully succeeded; and the greatest effect that I have ever witnessed, was immediately on the banks of the Chesapeake bay, hence the idea of salt air destroying its fertilizing powers, is totally fallacious, because it is not universally true; and the same cause must universally produce the same effect.

In lands which are wet, and consequently cold, it should not operate, because, as we have seen, heat is one of the agents by which it is rendered phosphoric, on which its efficacy depends.

In confirmation, and perfect conformity with my hypothesis, it is a fact stated by the highly respectable and observant gentlemen, of whom I have spoken, Judge Peters, in vol. 1st, p. 179, of the memoirs before quoted:—he says "I met with an instance to show that gypsum lying on the earth for years, will again operate with such re-application of substances," (meaning a slight dressing of hot manure.) It will easily be seen that upon the principles which I contend for the plaster might act for a time, and its action be then suspended from the want of sufficient heat to favour phosphorescence; and that by the addition of a small quantity of hot manure, a renewed action perhaps stronger than the first might ensue.

In 2d vol. p. 209, of the same work, Judge Peters quotes a memoir, by a Mr. Berard, and seems inclined to adopt his opinion upon this subject, *scilicet* "That sulphur affords the vegetative efficacy of plaster; acting as a stimulant to vegetation;" and remarks "why it acts on some plants, and not on others is as mysterious and inexplicable as its mode of acting on those, whereon it produces invariable and wonderful effects." Truly inexplicable it is, upon the notion of the sulphur of M. Berard; and equally so, upon the principle of its septic quality, for in either case, it should be equally beneficial to the whole vegetable kingdom; whereas, upon the doctrine I contend for the fact admits of easy solution, *scilicet* phosphorus is found to exist more abundantly in some vegetables than in others; and therefore some are benefited by the application of those substances, which contain it, more than others; and probably, when we shall have acquired more experience and more facts, relative to this subject, it will be settled, that a plant will be benefited by plaster, nearly in the ratio of the phosphorus it is constitutionally disposed to secrete and contain.

We may not yet be able at all times, to discern the

cause of the impotency of this calcareous salt in some soils; and of its potency in others of apparent similarity, yet it will be seen that most of the phenomena if not all admit of a solution, upon the hypothesis herein advanced.

Finally then, upon a review, we discover that plaster does become phosphoric; that phosphorus does exist in vegetables, and that the most powerful manures contain phosphorus, nearly in the ratio of their power; and that those most pre-eminent, and acting in quantities so small as to be almost miraculous, contain upon analysis, nothing except phosphorus which can possibly operate at all, (for it is undoubted, that so small a proportion of lime as is applied in bone dust, &c. can produce no visible effect) and the liberal and candid investigator will assent to my proposition and acknowledge the potent agency of the element "phosphorus" in promoting vegetation, and we shall probably in process of time, when we become more intimately acquainted with its properties than at present, assign to it an elevated rank among the pabula of vegetables.

I have the honour to be sir,

Yours respectfully,

JOSEPH E. MUSE.

To the president of the Agricultural Society at Annapolis.

NURSERY, FOR JANUARY.

From the American practical Gardener.

General Observations.

The cultivation of timber, or trees for building falls peculiarly under this division. The propagation of fruit trees and ornamental shrubs is likewise comprehended in it; while the orchard, fruit garden, and shrubbery exhibit the course of culture, for keeping the plants introduced into each, healthy and fertile.

Trees afford shade and shelter to particular walks and districts; some species will grow in low and marshy places, others on the sides of dry hills, many in waste places, not adapted for the cultivation of other plants or vegetables; at the same time it must be remembered, that most trees discover a preference for some specific kind of soil, in which each species will best succeed; a few show a remarkable repugnance to one peculiar sort of ground, and some trees require a fertile soil in order to flourish.

Although the consumption of timber has not so diminished the number of forest trees in the U. States, as to render the cultivation of it at present so important an object as it is in Europe, yet it requires to be noticed.

The deciduous and evergreens are clear distinctions. Deciduous trees remain leafless from November till April or May.

Evergreen plants change their foliage by degrees, and preserve the old leaves a long while after the formation of the new; the partial severings, and nicely distributed regenerations of foliage, do not take place at any determinate time. The leaves of all evergreen, shrubs and trees have a thin compact skin over their surface, this may be perceived by macerating them in water, in order to separate the pulp from the leaves; the separation cannot be effected until a thin parchment like case is taken off. The continuance of the leaf throughout winter on the tree, and its retention of verdure, is perhaps, owing in a principal degree, to this close covering. The evergreen plants perspire but little, compared with the deciduous, their formative juices are endowed with an oil quality, which secures them from being injured by frost, in proportion as it is limited or abundant, so that many evergreens grow in the coldest regions. From the presence of fixed oils, there is good reason for supposing that a certain degree of circulation goes on in their vessels throughout the winter.

The seasons for planting cut all kinds of trees are generally denominated autumn and spring. In mild winters the former is so prolonged, and the latter be-

gins so early, that the frost of the winter does not always totally suspend, for a great length of time, the plantation of hardy trees and shrubs. However between September and April, some months are preferable and safer for removing these than others.

Times for planting deciduous trees.

The eligible time for planting these begins with the fall of the leaf, in each respective species, which although it varies a little, according to the season and constitution of the plant, is always near the middle of October, and thence to the time when the sap begins to rise, and the bud to swell in the spring, which is generally about the middle of March; all kinds of hardy deciduous trees may be then transplanted in open weather.

The end of October is a principal time, the whole of November is very good, for in being transplanted, soon after the leaf decays, the plant has the advantage of the considerable interval, which usually elapses before the frost sets in hard, and if the root puts forth fresh fibres before the winter, the plant will be so well established the following summer, that the drought in the hottest season will not hurt it.

In December, the general transplanting of the deciduous tribe, may be continued in mild weather, but if the more tender and curious exotics are removed, the ground over the roots should be mulched, to keep out the frosts that must be expected; this is done by laying some dryish straw or long litter, to a good thickness on the surface, and as far round as the roots spread, and a little further.

In the course of January, during settled and open weather, any of the hardy deciduous trees and shrubs may be also planted, the more delicate being treated as before recommended, to keep the frost from the roots. If the ground designed to receive the plants is subject to wet, it is better to defer the removal of them until February. Some fruits, as peaches, nectarines, apricots, plums, and cherries, will generally succeed better, if planted out in the spring, than if planted in autumn.

In February, all deciduous kinds may safely be removed, if the weather be open, most sorts will take root at that season freely.

You may continue to transplant them without risk, until the middle of march, and if any occasion for new plants arise, even when March is drawing to a close, most sorts will yet succeed. But the plantation of deciduous trees should be deliberately and firmly undertaken, and finished about the middle of the month.

Roses planted in march, will flower the same year, but the sooner they are planted, the better they will strike root, and flower the sooner.

Water after transplanting, may be necessary, if the removal be not till thus late; and when curious and tender sorts are inserted in fresh ground, it may likewise be expedient to spread some mulch round the bottom of the stem, to prevent the sun and wind from rendering the earth about the roots too dry.

Having specified the extremes, within which it is advisable to keep, in planting deciduous trees, for common purposes, it may be serviceable to state the latitude to which early transplanting, or late transplanting for particular objects, may be best nurtured.

Early transplanting. If new trees in some particular place be wanted, you may remove the sorts, in which the leaves fall the soonest, as early as the first week of October is past; give a good watering, immediately after putting them in the ground, and if the weather be dry, and the exposure warm, repeat the watering twice or three times, and they will strike the same season without requiring more.

Late transplanting. If there be any vacancy in spots set apart for shrubs, the plants may be removed pretty safely, till the second week in April, but they must not only be watered well at planting, but refreshed with water frequently during the dry intervals of summer, to keep them alive. To provide a bloom of roses, as late as July, August and September, the transplanting of an assigned number, is sometimes postponed till April, or the beginning of May; plenty of water must be given them, till they are well rooted.

Times for transplanting Evergreens.

Towards the end of September, you may begin to transplant evergreens with safety, especially if the weather proves moist; if it be dry they must be plentifully watered at planting, and once or twice afterwards. They will probably strike new roots before winter.

Hardy plants may be removed any time in October, the sooner the better, that they may take root before the setting in of frost. Choose a time when the ground is in a moist state.

Throughout November planting may be continued during open weather; by the latter end of which month, it is desirable that the autumn planting of evergreens should be finished.

When there is a necessity for removing ornamental shrubs in December it will be advisable to mulch round the bottom of the stem, as soon as they are planted. The objections to the transplanting evergreens in December or the latter end of November, however mild at the time, arises from the daily probability of sharp frosts coming just afterwards, for the evergreens being in a state of growth in the herb, are liable to be injured in the young shoots and leaves if severe weather occurs soon after they are removed; and in this respect they are less hardy than the deciduous tribe.

Towards the end of January, hardy evergreens may be removed if frosts do not forbid, but no general transplanting of them should be undertaken, till February or March. Frequently when the weather is mild and open in January, the ground is too wet.

If February prove settled and mild, there will be no risk in transplanting; the latter part of the month is generally the best time for removing evergreens.

When it is open weather in March, they will take root most freely in fresh earth; if it be a dry time give water and lay moist mulch round the stem, to prevent the effects of the sun and wind drying the earth excessively.

Evergreens may be very successfully removed till the middle of April, at which period the general transplanting should be completed; guard the earth over the roots, from the drying effects of the sun &c. as before directed.

The proper times for transplanting box and other evergreen edgings, are the same as for the large plants.

Some few kinds of evergreens, the arbutus for example, the rhododendron, and the cypress may be transplanted even in May, but they will be lost, if not well watered.

Removal of plants.

The least hardy plants, which as curious exotics are often of the most valuable kinds, should be taken up with a ball of earth to their roots. As evergreen are always in a state of growth, it is desirable to have them so dug up on all occasions, that the old mould may adhere about the roots.

Additional remarks.

In the commencement of a subject so important as directions for the proper management of a nursery, the introducing a general table of deciduous and evergreen trees and plants, appeared the most suitable to convey the necessary instruction, relative to the time and method of planting, and although no only the fall planting, but the winter and spring plantings are introduced into this month, the subject by this means kept more connected, and can with more facility be recurred to, than to be scattered over different parts of the work. The different species of each genus are not enumerated, as that would require too large a scope, and be more useful to the botanist, than to the practical gardener. However, if a complete list be desired, it may be found in Miller's Gardener's Dictionary.

It is improper to enrich nurseries with dung, unless it is very old, and almost converted to earth, so as to admit it to be entirely incorporated with the soil. It could be done the ground should be well manured and a crop of potatoes raised previous to commencing the nursery; when this cannot be easily accomplished, although it is not absolutely necessary that the se-

should be highly manured, yet you should not make choice of a poor soil, but substantial garden ground, or good mellow pasture land, the sward carefully trenched to the bottom.

A small nursery for private use, may be made in any suitable part of the kitchen garden.

Soil and Situation.

It must be evident from the affections and antipathies of plants, in respect to different kinds of earth, that a complete nursery should either naturally comprise, or by art be made to comprise soils of various qualities. The mould, in the chief part of it, should be light and pliable, with a large mixture of sand, a part of it should be a rich fine loam; there should be also, a minor proportion of clayey land, and if possible, some peat earth within the boundaries.

A cold damp bottom, or a soil which lodges any stagnant water, will be very unsuitable, except it be well drained.

The upper soil should be naturally good, or meliorated to the depth of two feet.

As to aspect, the nursery should be open to the east, south, and west, and sheltered on the remaining quarter, so that if a particular exposure is either wanted or to be denied, to any of these plants, it may be obtained by the interposition of screens. If there be slight declivity in the surface, so as not to interfere with the general tillage of the ground, particularly if the inclination be to the south or east, it will have some advantage over a level.

Fencing, preparing, and laying out the Ground.

A fence round the whole nursery is necessary, of the best materials you can procure; a board fence, or hedge and ditch.

When the whole is trenched, as before directed, proceed to divide it by walks, into quarters, and other compartments. A principal walk should lead through the middle from eight to ten feet wide, having a broad border on each side; another walk should be carried all round, leaving an eight or ten feet border next the outward boundary, all the way; then divide the internal part by cross walks, so as to form the whole into four, six, or eight departments, called quarters.

One or more of the divisions must be allotted as a seminary, for the reception of all sorts of seeds, for the reception of seedling plants, to furnish the other parts. Divide this seminary into regular beds of three and a half to four feet wide, with eighteen inch alleys between each bed; in these beds, sow the seeds, &c. of all such trees, shrubs, and herbaceous plants, as are raised from seed, and which consist of the various sorts of smaller seeds, kernels, and stones of fruit, to raise stocks for grafting and budding; seeds of forest trees, ornamental shrubs, &c. and seeds of numerous herbaceous perennials, both of the fibrous and bulbous-rooted tribes. The sowing season is both spring and autumn, according to the nature of the different sorts. When the young tree and shrub plants raised herein are one or two years old, they are to be planted out in nursery rows, into the other principal divisions; but many kinds of herbaceous plants require to be pricked out from the seed-beds, when but from two to three or four months old; bulbous seedlings will not be fit for planting out in less than two or three years.

Another part should be allotted, for stools of various kinds of trees and shrubs, to propagate them by layers, by which numbers of plants of different kinds are propagated. These stools are strong plants of trees and shrubs, planted in rows three or four feet distant every way, and such of them as naturally rise with tall stems, after being planted one year, are to be headed down near the ground, to force out many lower shoots, conveniently situated for laying.

The cuttings, suckers, slips, off-sets, &c. of hardy trees, shrubs and plants may be planted in any convenient part, in shady borders, &c. and for the more tender kinds, some warm sheltered situation should be allotted.

The other principal divisions of the nursery ground, are for the reception of the various seedling plants, from the forementioned seminary, as well as for those which are raised from cuttings, suckers, layers, &c. these to be planted in rows, from one to two or three feet asunder, according to the manner of their growth;

allow the tree and shrub kinds three times the distance of herbaceous perennials. Some are to be planted for stocks to graft and bud fruit trees and other choice plants upon. Most forest and other hardy tree kinds, also a most all the sorts of shrubs are trained entirely on their own roots, without budding or grafting. Here they must remain to have several years growth, according as they may require, for the several purposes, they are designed for.

In a complete nursery, it will be proper to allot a dry, warm, sheltered situation in the full sun, on which to make hot-beds of dung or tan, for raising and forwarding many sorts of tender and curious exotics, by seed, cuttings, suckers, slips, &c. and be careful to be furnished with every requisite necessary therefor.

General mode of arranging the Plants.

In the distribution of the various sorts of the plants in the nursery, let each sort be separate: the fruit trees should generally occupy spaces by themselves; the forest trees should be stationed together, all the shrub kind should be ranged in separate compartments—a place should also be appropriated for herbaceous perennials; a warm situation should be assigned to the tender plants, which should be defended with yew, cedar, or some other hedge. In this place those plants may be kept in pots, which require to be preserved from severe frosts, and yet not so tender as to demand the protection of the greenhouse. The arrangement of all these should be in rows.

Fruit tree stocks, for grafting and budding upon, should be placed in rows three feet distant, and about one foot apart in the row, if for dwarfs; standards should have their rows four feet apart, and eighteen inches or two feet in the rows. Forest trees should be placed in rows, four feet asunder, row from row, and two feet in the rows; the shrubs should likewise have the rows about three feet asunder, and eighteen inches distance in the rows, varying the distance, according to the time, they are to stand in the nursery. Herbaceous plants should be disposed in rows, four feet distance apart, and eighteen inches in the rows.

Planting out the Seedlings.

There are various methods of setting out the nursery plants, after being raised either by seed, layers, suckers, or cuttings; this is performed by pricking out some, especially small seedlings, by the dibble, others are put in by the spade, or hoe.

Planting Herbaceous Fibrous-rooted Plants.

These are for the most part planted out with a dibble, except when the roots are large and spreading, or such as are removed with balls of earth, then they are more commonly planted with a trowel, or small spade.

Planting Bulbous Roots.

Bulbous and tuberous-rooted plants, if set out in the best manner, should be done as follows:—trim off the top of the bed six inches deep, then line out the place for the plants to be set in, the rows six inches apart, cross the first lining at right angles, six inches distance, and in every corner of the bed put in about an inch of clean sand, on this set the roots of hyacinths, or tulips; crocuses do not require to be planted at such a distance. Crown imperials require two feet each way: previous to planting them, lay a shovel full of fresh cow-dung in the place, then put in the root, cover it with another shovel full of the fresh dung, and over this the earth so that the root may be entirely covered with the dung, and its crown be six inches under the surface of the ground.

General Culture of the Plants of this Department.

Those designed as stocks for fruit trees, should have their stems perfectly cleared from lateral shoots, so as to form a clear straight stem, but never shorten the leading shoot, unless it is decayed, or become very crooked, in which case if it is cut down low in spring, it will shoot out again, then train the main shoot for a stem, with its top entire, until grafted or budded.

After they are budded or grafted, such as are designed for full standards, must be kept to a single clean stem, five or six feet for full standards, by cutting off all lateral shoots, which sprout below: half standards trained with a three or four feet stem, and dwarf standards headed down to one foot from the ground; the graft or bud of these must of course be set in low.

Forest trees should be formed with straight single

stems, by trimming off the lateral branches, which will cause the leading top shoot to grow straighter and higher, than it otherwise would; but should it fork, before it has attained a proper height, trim off the weakest and leave the straightest and strongest shoot, to form the stem of the tree.

When the fruit trees are grafted or budded, place sticks to the different species labelled 1, 2, 3, &c. and set them down in the nursery book; paying the same attention to the forest trees, shrubs, and perennials.

Where the plants are in rows, wide enough for the hoe to pass between, which would be the best method, even for the seedlings, hoe the ground well, and frequently, during spring, summer, and autumn, both for the culture of the plants, and to destroy the weeds, also hand weed between the rows. Every fall or spring, the ground, between the rows should be manured with old rotten dung, and dug up, turning in the manure, and weeds, to the bottom.

Southern States.

This month, prune the deciduous shrubs, and trees trimming off all straggling roots of both.

Transplanting of young forest and ornamental trees, in the nursery now may be performed, particularly deciduous trees, &c. of the hardy kinds, if the weather is like to be mild, and hard frosts are not expected follow.

Prune all hardy, deciduous shrubs, and in open settled weather, transplant them both in the nursery, and in the shrubbery plantations, provided the soil be dry, otherwise do not plant therein before February.

Plantations of fruit tree stocks, for grafting and budding upon, may be made at any time this month. Many of these raised from seed, last spring, may be now planted in nursery rows, as before directed, and when they have stood there one or two years will be fit for budding and grafting. See Nursery, October, for the method of painting; that of March for grafting, June, July, and August, for budding. This being a suitable time to propagate deciduous trees in the southern states, as well as shrubs by layers, the reader is referred for directions, to Nursery in February, also slips and cuttings.

Prepare some ground, where it is not wet, for the reception of stones and kernels, of hardy fruit, to raise a supply of stocks, for budding and grafting upon; cover the stones an inch and a half deep, and the kernels half an inch, with light earth; keep them clean from weeds, water them in dry weather. Some of them may be transplanted into the nursery rows, in November.

Sow the various kinds of hawthorn, holly, red cedar, juniper, yew, mezereon, sweetbay, English and Portugal laurel berries, hornbeam, ash, spindle-tree, bladder nut, and all the other kinds of tree, and shrub seeds, which require a year's care previous to sowing.

For instructions see February and March.

From the Agricultural Museum.

Five Minutes Reflection on Sheep.

[Concluded from our last.]

As to the treatment of the flock in general, the best thing to be offered them is good pasturage, in this climate from about the 20th of April till the 10th of December; a little sooner or later according to the season between which periods they must have food from the racks and troughs. Let the racks be well stored with good hay, clover or timothy in preference, for them to go to at all times. From the troughs give them at the rate of about a gill of Indian corn a day, or its equivalent in oats, pease and the like, through the winter, and in hard weather double the quantity. Irish potatoes chopped, or passed through a cider mill, is an excellent food from the trough, and particularly toward spring for the ewes that have lambs. Turnips, so much recommended in England, I consider no object here; there is difficulty too in preserving them either in the ground or out of it, through our winters; and as to folding,

though I never tried it, I apprehend that it injures sheep more than is compensated by the manure, or the saving of food. Good hay alone, given in plenty, will carry a flock well through the winter. If your stock is small and your pastures or meadows fine and extensive, they may do tolerably well, but there can be no doubt that good feeding in winter is real economy, as much so as putting manure and additional labour on a poor field, is in Agriculture; the produce amply pays the additional trouble and expense; the increase of quantity and quality of the wool, the number of the lambs raised, and the condition of the whole flock, give a clear profit on the consumption of the food from the rack and the trough; and the great advantage of this system will be found to be, that a Farmer may, on the same ground, with a little additional care and attention support four or five times as many sheep as he did on his old plan; because he then made his calculations only on what his pastures could do for them in winter—and when he found that if he increased his flock beyond a given number, they became dirty nosed, roach-backed, coughing, losing their wool, he considered himself overstocked, and killed or sold off, and so he was indeed as to the mere scuffling in winter for the little herbage left by the frosts within their reach.

There is no doubt that one hundred acres of good pasture land, will support from the middle of spring till frost, four hundred sheep. If it is profitable then to feed in winter, it is clear, that every Farm may have its stock more than quadrupled, because these one hundred acres under the present practice will not carry through the year more than sixty or seventy sheep, even where by some tender master, a little straw or corn fodder is thrown them to pick under their feet. Salt should be given, where distant from the influence of salt water, in the troughs, or on flat stones ranged for the purpose, twice a week winter and summer. Green food early in spring is very advantageous to the ewes and lambs—Orchard grass and the Peruvian grass, (so called in this part of the country,) afford early pasture but I think the best way is to sow a piece of Rye, every fall early on purpose—this will occasionally afford a good bite through the winter, and in spring may be fed as late as the 20th of April, and then give, if the season is favourable, a good crop of grain.

To feed the flock securely and conveniently in winter, let there be a roomy pen fixed on a piece of dry ground, with a thatched shed drooped to the north—open on all sides but on the north, long and wide enough to admit the racks and troughs under cover, and to afford room to the flock to lie dry. Beside a gate for the attendant to go through, let there be a pannel open to the height of three feet; this will receive the sheep, and exclude other stock, except hogs, which should not be suffered to run in the sheep pasture—in and out of this pen let them pass at pleasure at all times. After every fall of rain or snow, the interior of the pen should be strewn pretty thickly with clean dry litter, and the space under the sheds be scraped clean and littered afresh every two weeks; the manure so made will be an object. It will be very useful to have within the enclosure a copse of cedars, or pines, to which the sheep can have access during the winter to browse on; the resinous substance contained in the leaves of these trees, are both grateful and salubrious to them—in default of such a copse, if there be any of the trees within convenient distance, the boughs should be brought and thrown into the flock twice a week during winter.

There must be water in the pasture, for although sheep do not require drink in summer when at grass, at this season, and when on dry food, it is absolutely requisite to them.

There is a prevalent opinion, with which I do not hold, that sheep do best at all times without confinement or shelter; this is true as to confinement, except occasionally at yearning time, but not as to shelter; they want no defence from mere cold; nature has sufficiently covered them against that, not so as to wet and cold combined. The having their fleeces

drenched with cold rains, the being for months on the wet and frozen ground, impairs their condition, brings on coughs, and engenders disease.

It is certainly true, however, that the standing and lying on their own filth, will sooner or later infect the flock; but in winter, and with the precautions I have advised, as to cleaning out the sheds frequently and littering the pen, there is little danger. From the middle of April to the middle of December, there is no need for pen or shelter; unless an enclosure to guard against dogs at night, in which case it should be so constructed as to be moved frequently, made six or seven feet high, and the rails or paling placed upright, and on the outer side; indeed at very little expense a moveable shelter and pen for the winter establishment, if danger is apprehended from feeding too long on one spot, might be easily contrived, and made also proof against dogs.

It is of great importance to have the flock entirely gentle. The sheep are more readily fed and inspected, and when it is necessary to handle any of them, as will frequently be the case in a system of good care and good feeding, there is no racing or penning, which beside the delay and trouble of the thing to catch a single sheep, annoys and disturbs the whole flock—and sometimes accidents happen. It is easily effected, by making it the particular business of some one sedate careful person to attend to the flock. Let him by degrees, and particularly in winter, accustom them to feed while he is in the midst of them, and often to take it from his hands—and those among them that are the most shy, let him by slow approaches and kind usage particularly attend to—he will soon have the flock at his call, at any season of the year, and under his hand, he may take hold of any sheep he wants. A good shepherd should know, and he may very soon come to know every individual in his flock, if not a large one, and if very numerous, he should at least know forty or fifty of the most remarkable.

The principal cause of the decay of flocks, is that the old sheep are not removed from it in season; any man will acknowledge the truth of this remark, who will be at the pains of observing. He will find that with the same treatment, the young sheep, (up to six or seven years old,) will be in good case, while those older will be thin; and those yet more advanced miserably poor and apparently diseased. It is a short lived animal, comes soon to maturity and soon declines; and although there are instances that a sheep lives and propagates to twelve or fifteen years, they are rare; the rule is otherwise. The time of shearing is the time of general inspection, and of disposal of the flock. Then let the master's eye be scrutinously placed on every sheep he owns—to choose his lambs to breed from, to mark, to fat, and to dispose of in the course of the fall and winter, not only such wethers as are now of proper age, but above all to examine the coats and mouths of his grown breeders, and to set apart for the butcher all that have broken mouths or indifferent coats. A sheep at birth has his mouth full of lambs teeth, eight on the lower jaw (every body knows that he has none at any age on the upper jaw) at one year he drops two of these in front and acquires in their place two sheep's teeth—the second year he gets two more, one on each side of these last—the third year he has two additional in the same way, and during the fourth year, there come out the two last sheep's teeth, one on each outer side—thus at the commencement of the fifth year, the mouth is full, as it is called—having now eight sheep's teeth on the lower jaw; during the sixth year, the mouth begins to be, what they term, broken; that is, the teeth are wearing away in front; and in the seventh year they have all become smaller, and several are worn near to the gums; the animal is no longer able to pick and manage his food, in pasture, at the rack or trough with the same facility; his constitution begins to fail; the younger and more vigorous competitors pull the best grass from him in the field, and shove him out of the way of good fare in the pen. It is then folly to keep him longer under these disadvantages and the more is the folly, because as a sheep

propagates as early as a dunghill fowl, and with the requisite care, such must be the increase of the flock, that to keep them down to a given number, the only question as to the females will be, whether to kill off from the lambs or the ewes—and in what proportionate quantity. The rule is never to shear more than six fleeces from a sheep, unless as to a particular animal which may be preserved on account of uncommon qualities.

The best season for shearing, I have found to be the middle of May; there is danger in taking off the coat too early—if a cold rain should fall on sheep soon after they are stripped, many will be lost; so sensible are they, at this time, to the changes of the atmosphere; and should a spell of cold rainy weather overtake them within a few days after they are shorn, the only remedy is to house them till it is over.

As any farmer may in a little time renovate his flock, by getting rid of the old subjects and supplying in plenty wholesome provender, so may he in a very few years, greatly change and ameliorate his wool, as well as increase it in quantity, by selecting for his breeders only such as have desirable coats; without having recourse to new breeds. At the shearing season, the fleece is full grown, and all its defects or advantages may be seen; at it is time then let the final selection be made among the grown sheep; since, however, promising a lamb may have been, as to size and form, when turned out, its wool can only be judged of when he comes to the first shear. Seek for wool curled in the fibre, set close on the pelt, and free from stitched hairs as they are called—(hairs interspersed throughout the body and principally about the back and rump) and without much breeching, (long straight haired spots on the thighs)—a single ram with these defects will entail mischief on the flock for many years—and every ewe of this description will be removing to a greater distance the period of improvement.

It is an error, but too common, to judge of a sheep from the apparent bulk and form given by a coat of long coarse hairy wool; it is deceptive and imposes on a superficial observer. Let such a sheep be stripped, and then examine his carcase and his fleece, the first will be found to have lost all its supposed beauty and advantage, and on inspecting the fleece, they will not be discovered to have been left there; this will be seen to be too long and too harsh for carding, fit only to fatigue and vex the good housewife and her spinners—and to make, even among coarse fabrics, stiff uncomfortable clothing.

Any person, however, unaccustomed to examine wool, may soon habituate his eye to the relative qualities, so as to be a competent judge of any fleece or detached lock, and the speediest way of effecting this, is by frequently drawing samples from individuals of one's own flock and those of his neighbours and comparing them, taking care to draw them from the same part of the body; because in most sheep there are different qualities of wool on the different parts; half way down the side adjoining the shoulder is the best place to draw from, for quality and uniformity.

I do not think it is desirable to wash the wool, as some practise on the sheep—it is a disagreeable process to the operator and to the sheep, and as I believe endangers their health. I would recommend that they be shorn unwashed. Let the finest woolled sheep be separated by inspection before shearing, let the fleeces of these be made up carefully without breaking; and when the wool is to be washed, let them be opened on a plank floor and stretched out with the skin side next the floor thus the parts of the fleece may be readily distinguished. Take off the breeching or hinder part, the most of the belly, and the tags, throw these among the coarse fleeces, and there will be left the better parts of the best fleeces, and an easy assortment will have been made of the fine from the coarse for family purposes. A tolerable selection cannot be made after all the fleeces have been mixed and broken in the process of washing and drying.

As to myself, I have as yet been fortunate in know-

ing but few diseases to which sheep are subject, and therefore am not acquainted with many remedies. The principal disease from which I have suffered, and from which I did suffer sorely for several years, after I began to raise this stock, my people called the country distemper. I have already described it; dirty noses, coughs, wheezing, roached backs, pinched flanks, loss of wool before shearing time, great mortality in lambs, and frequent deaths among the old sheep so that I had often to buy in to keep my number up, it was thought infectious, and the worst were separated. In some years they all had it, and then I had often thoughts of getting rid of the whole on any terms, and procuring a fresh and more healthy stock; at length it struck me, on observing a flock at a friend's house on an excursion in a neighbouring state, feeding at the troughs and racks in winter, that it was possible such medicine might be of service to my own sheep. I applied it immediately on my return home, and in few weeks was gratified to find that it had relieved about two-thirds of the flock on examining the next spring, those still affected, I found them absolutely without teeth—these things brought me to my reflections—I set seriously about the reform, and by degrees adopted the system I have here recommended, with complete success, as may, I am satisfied, any farmer who will be pleased to try it. A MARYLANDER.

DESULTORY READINGS.

Under this accommodating title the Editor proposes to appropriate to himself, occasionally, a column or two of the Farmer, for the sake of presenting, more especially to the younger class of his readers, such essays and observations from various authors, as may seem calculated to convey both amusement and instruction.

Though these selections will generally be more or less connected with the pursuits and labours of the husbandman; they will also be, sometimes, of a moral and literary cast, according as accident may happen to present the one or the other. We have too often to regret the want of leisure for a more extensive and deliberate course of studies, that would enable us to make this paper more worthy of the generous encouragement it has received, but we must never forget that our first and paramount duties are those due from us as the Postmaster of a populous city.

We here copy, as an example of what we design, the botanical description, with a short account of the history and medical virtues of *Flax*—for although many of us have seen it growing all our lives, we never probably thought of it, in any other light, than as the means of making linen. How inglorious to remain thus uninquisitive about, and ignorant of the history, the elements, and some of the most obvious and useful purposes of things which grow up, and perish about us every day. By spreading in their way some striking examples to shew in how many new lights, science can exhibit those productions of nature, apparently the best known; it may be that we shall foster amongst the sons and daughters of farmers, a thirst for researches in natural history, and a taste for the pursuits of literature in general—it may be, that we shall be able to convince the young man, who reluctantly submits to the calling of the plough, that his occupation, when properly and liberally viewed, is not of that monotonous and ignominious character, which is so often and so undeservedly attributed to it; on the contrary, there is no pursuit in all the circle of human employments, that admits of greater variety and

more various entertainment, that is better calculated to exercise, and develope, and strengthen the mental faculties; or that is more likely to beget and cherish all the better feelings of the heart, than farming, when the proprietor conducts it like a gentleman and a man of science.—when he unites, as he ought to do, with the labours of the field, the pleasures of the gun, the exercises of the chase, the experiments of the laboratory, and the studies of the closet. How much more honourable would it be for young gentlemen in the country, to invest their losses at the gaming table, in collections of books on Natural History and Philosophy, and, by so doing, provide, at home, that defence against ennui, which they are too apt to look for in taverns and billiard rooms, in the bottle or the dice box?

FLAX.

History.

This valuable annual plant is said to have come originally from those parts of Egypt, which are exposed to the inundations of the Nile. It now grows wild in the fields in the south of England, and is cultivated in large quantities. It flowers in July.

Linseed contains about one-fifth of mucilage, and one-sixth of fixed oil. The mucilage resides entirely in the skin, and is separated by infusion or decoction; the oil is separated by expression. It is one of the cheapest fixed oils; but is generally rancid and nauseous, and unfit for internal use. The cake which remains after the expression of the oil, contains the farinaceous and mucilaginous part of the seed, and is used in fattening cattle under the name of oil-cake.

Medical use.

Linseed is emollient and demulcent, the entire seeds are used in cataplasms, the infusion is much employed as a pectoral drink, and in arduous urinæ nephritic pains, and during the exhibition of corrosive sublimate.

Linseed abounds with a quantity of oil and mucilage, it yields its mucilage to water; and infusions of it sweetened with sugar or honey, or prepared with the addition of some liquorice root, prove good and useful remedies in coughs and rheums; and the oil got by expression may be used as other mild oils.

Bergins recommends this oil as a good remedy in the illiac passion and volvulus, it is much employed in manufactures of different kinds.

PREPARATIONS.

Cure for a recent cough and cold.

Put a large tea-cupful of linseed, with a quarter of a pound of sun raisins, and two ounces of stick liquorice, into two quarts of soft water, and let it simmer over a slow fire till reduced to one quart; add to it a quarter of a pound of pounded sugar-candy, a table spoonful of old rum, and a table spoonful of the best white wine vinegar or lemon juice, the rum and vinegar should be added as the decoction is taken; for, if they are put in at first, the whole soon becomes flat and less efficacious, the dose is half a pint, made warm, on going to bed; and a little may be taken whenever the cough is troublesome, the worst cold is generally cured by this remedy in two or three days; and, if taken in time is considered infallible.

To dress Flax to look like Silk.

Take one part lime and between two or three parts of wood ashes; pour over them a due proportion of water to make a strong lie, after they have stood together all night, which must be poured off when quite clear. Tie handfuls of flax at both ends, to prevent its entangling, but let the middle of each be spread open, and put it in a kettle, on the bottom of which has first been placed a little straw, with a cloth over it, then put another cloth over the flax, and so continue covering each layer of flax with a cloth, till the kettle is nearly full. Pour over the whole the clear lie, and after boiling it for some hours, take it out, and throw it in cold water, this boiling &c. may be repeated, if requisite. The flax must be each time dried, hackled, beaten and rubbed fine; and, at last, dressed through a large comb, and through a very fine one. By this process the flax acquires a bright and soft thread. The tow which is off, when papered up and combed like cotton, is not only used for many of the same purposes, but makes lint for veterinary surgeons, &c.

THE FARMER.

BALTIMORE, FRIDAY, JANUARY 21, 1830.

TO SUBSCRIBERS,

Those who have, and those who have not paid.

When this paper was established, the Editor laid it down as a general rule, to require payment in advance. He felt conscious that, from the communications he should receive from men of superior abilities and experience, as well as from other valuable resources, he could give to the cultivators of the soil, a volume that would be more than worth the subscription money. His leisure moments have been devoted with equal zeal and pleasure, to make the Farmer, a useful *National Work*, on the great subject of American Agriculture. The demand for the paper has exceeded his anticipations, and he has every reason to be grateful for the punctuality of his subscribers. In some instances, gentlemen have paid for two years; with friendly assurances of a desire to see such a work in general circulation throughout our country. Some gentlemen, in the midst of numerous occupations of public and private concernment, have even solicited subscription papers, that they might procure additional names, being pleased to say, that in so doing, they considered themselves as promoting the best interests of the country. But there are still a few who have neglected to pay for their paper; and although few in number, it is necessary to remind them now, in order to know whether their names are to be transferred to the list of subscribers for the *second volume*. Those who have been peremptorily required to pay in advance, have a right to ask how it happens, that some have been allowed to get in arrears—It has so happened, for the most part in this way—Gentlemen, known to feel a kind and friendly interest for the farmer, have requested the editor to send it to certain persons, saying, that they were respectable and wealthy men, punctual in their general dealings, and would undoubtedly pay when called on; we take this opportunity therefore as the first volume is drawing to a close,

to return our sincere thanks to those who have complied with the terms; and especially to Gentlemen who have, in some cases obtained as many as *thirty* subscribers; at the same time to entreat those few who have not paid, to remit immediately by Mail, at the risk and cost of the Editor.

In proportion as domestic manufactures revive that much neglected animal the *sheep*, must rise in public estimation;—we have therefore copied "*five minutes reflection*" of some able writer on sheep. We have read the works of Tessier and Daubeaton, and Somerville and Livingston, &c. on the same subject; but this writer has, with masterly discrimination, and with happy application to the circumstances of our own country, condensed all that is essential to be considered in the present state of things, on this item of rural economy.

For the American Farmer.

PROCEEDINGS OF THE AGRICULTURAL SOCIETY
OF ALBEMARLE.

On Manuring for Turnips.
No. VII.

Sir,—I beg the liberty of communicating to your society, the result of an experiment I made the last year in the culture of Turnips.

A small patch of ground containing one fifth of an acre, which had been a cow-pen the preceding year, I had thoroughly ploughed and harrowed about the middle of July. On or about the 10th of August, immediately after a heavy rain, it was again ploughed and harrowed, and laid off with a hand plough both ways in furrows twelve inches distant, crossing at right angles. At the intersection of the furrows, I had the common summer turnip seed dropped, (three or four seeds in a hill) and covered with the hand, nearly an inch deep. A top dressing of Plaster of Paris was then given it. In forty hours the plants made their appearance. On the 10th of September, when they had from five to seven rough leaves, about six inches long, I had the ground thoroughly hoed—the weeds removed, and the hills thinned—one plant only being left in each. On the 1st of October they covered the ground, measured about two and a half feet in length. At this time the roots were not larger than a thimble; but they soon began to grow rapidly, and the outside leaves to fall off. By the last of the month, they had got their full growth. On the 10th of November I measured the product of one square rod, taken indiscriminately near the centre of the ground. It yielded seven and a half bushels of excellent turnips, all nearly of the same size; the smallest weighing about two, and the largest not more than four and a half pounds. No difference was

discoverable throughout the patch. Admitting therefore that every part was equal (and I have no hesitation in asserting the fact,) the whole product was two hundred and forty bushels, in the proportion of twelve hundred bushels to the acre—a product considerably greater than I have ever known in this country, and not inferior to what Sir John Sinclair says the best cultivated land in Great Britain ought to yield.

My principal object in making this communication is, to remove the erroneous idea entertained by many intelligent agriculturists, that the soil and climate of Virginia are unfavourable to the growth of turnips? and, at the same time, to make known what I consider the best method of planting and cultivating them.

With regard to the comparative value of turnips for stock and culinary uses, it is unnecessary to express an opinion; but I do not hesitate to say, that farmers in every section of our country who will pay some attention to the cultivation of that vegetable will be richly remunerated.

BENJ. COLMAN.

P. MINOR, Esq.
Secretary of the Agricultural Society of Albemarle.

For the American Farmer.

A NEW ROTATION.

The following rotation is submitted for the consideration of agriculturists. The criticism of experienced and inquiring farmers is respectfully invited.

1820—Autumn—Spread and plough in your manure.

1821—Spring and summer—potatoes, turnips, &c.—Autumn gather in and feed it to your stock.

1822—Indian corn—Autumn sow clover.
1823—Clover—Autumn turn in clover and sow wheat, &c.

1824—Wheat—Autumn manure and plough in stubble.

1825—Spring and summer—Potatoes, turnips, &c.—Autumn gather and feed to stock.

Mr. Editor,—One of your subscribers, who holds in high estimation the efforts of others in the cause of agriculture, is desirous to know the result of the soiling experiment of Col. Tilghman of Washington. If he will be particular in his promised account of this experiment, he will much oblige his friend and fellow farmer.

MONOCACY.

January 18th, 1820.

How to make B own Spruce Beer.

Pour eight gallons of cold water into a barrel, and then after boiling eight gallons more, put that in also; to this add twelve pounds of molasses with about half a pound of the essence of spruce and on its getting a little

cooler, half a pint of good ale yeast. The whole being well stirred: or rolled in the barrel, must be left with the bung out for two or three days; after which the liquor may be immediately bottled, corked up, and jacked in saw dust or sand, when it will be ripe, and fit to drink in a fortnight.

Remember, that it should be drawn off into quart stone bottles and wired.

EXPORTS.

From the United States in the year ending Sept. 30, 1819.

Produce of the Sea,	\$2,024,000
Of the Forest,	4,927,000
Of Agriculture,	41,452,000
Manufactures,	2,574,000
Uncertain,	630,000

Of the produce of the Sea—there was of dried fish \$1,052,000—pickled 409,000—whale oil and bone 431,000—spermaceti oil and candles 132,000.

Of the Forest—Skins and furs 481,000—Ginseng 30,000—Lumber, staves, spars, shingles, hoops, poles, hewn timber, &c. 2,400,000—oak bark and other dyes 146,000—naval stores 376,000—ashes pot and pearl 1,419,000.

Of Agriculture—Beef, tallow, hides, live cattle 598,000—butter and cheese 297,000—pork, bacon, lard, and live hogs 1,009,000—horses and mules 100,000—Sheep 21,000—wheat, flour, and bread 6,415,000—Indian corn and meal 1,424,000—rye and meal 296,000—rice 2,143,000—oats, pulse, potatoes, &c. 195,000—tobacco 7,687,000—cotton 21,082,000—flaxseed 171,000—hops 23,000—wax 37,000—poultry, maple sugar, &c. 7000.

Manufactures—tallow candles and soap 469,000—boots, shoes and saddlery 122,000—hats 16,000—grain, spirits, beer and starch 95,000—furniture, coaches and other carriages 325,000—cordage 40,000—iron 54,000—snuff, wax candles, tobacco, lead, &c. 503,000—spirits from molasses 153,000—refined sugar 11,000—chocolate 5000—gunpowder 110,000—brass and copper 13,000—medicinal drugs 32,000—uncertain manufactured article 301,000 raw materials 329,000.

BALTIMORE,

PRINTED EVERY FRIDAY,

For John S Skinner,

AT FOUR DOLLARS PER ANNUM,

PAYABLE IN ADVANCE.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . Virg.

VOL. I.

BALTIMORE, FRIDAY, JANUARY 28, 1820.

NUM. 44.

American Domestic Cookery.

BY A LADY.

Under this title, that judicious and enterprising Bookseller, FIELDING LUCAS, has published another small volume, that ought to be in the hands of every Mistress of a family. It teaches how to prepare and cook on the most economical plan all sorts of good dishes, and illustrates the necessary art of *carving* by numerous engravings. The price of the work is \$1.25 in boards—it is prefaced by the following

MISCELLANEOUS OBSERVATIONS

FOR THE USE OF THE

Mistress of a Family.

In every rank, those deserve the greatest praise, who best acquit themselves of the duties which their station requires. Indeed, this line of conduct is not a matter of choice but of necessity, if we would maintain the dignity of our character as rational beings. In the variety of female acquirements, though domestic occupations stand not so high in esteem as they formerly did, yet, when neglected, they produce much human misery. There was a time when ladies knew nothing *beyond* their own family concerns; but in the present day there are many who know nothing *about* them. Each of these extremes should be avoided: but is there no way to unite in the female character, cultivation of talents and habits of usefulness? Happily there are still great numbers in every situation, whose example proves that this is possible. Instances may be found of ladies in the higher walks of life, who condescend to examine the accounts of their house-steward; and, by overlooking and wisely directing the expenditure of that part of their husband's income which falls under their own inspection, avoid the inconveniences of embarrassed circumstances. How much more necessary, then, in domestic knowledge in those whose limited fortunes press on their attention considerations of the strictest economy! There ought to be a material difference in the degree of care which a person of a large and independent estate bestows on money concerns, and that of a person in confined circumstances: yet both may very commendably employ some portion of their time and thoughts on this subject. The custom of the times tends in some measure to abolish the distinctions of rank; and the education given to young people, is nearly the same in all: but though the leisure of the higher may be well devoted to different accomplishments, the pursuits of those in a middle line, if less ornamental, would better secure their own happiness and that of others connected with them. We sometimes bring up children in a manner calculated rather to fit them for the station we wish, than that which it is likely they will actually possess; and it is in all cases worth the while for parents to consider whether the expectation or hope of raising their offspring above their own situation be well founded.

The cultivation of the understanding and disposition, however, is not here alluded to; for a judicious improvement of both, united to firm and early taught religious principles, would enable the happy possessor of these advantages to act well on all occasions; or would young ladies find domestic knowledge a burden, or inconsistent with higher attainments, if the rudiments of it were inculcated at a tender age, when activity is so pleasing. If employment be tire-

some to a healthy child, the fault must be traced to habits which, from many causes, are not at present so favourable to the future conduct of women. It frequently happens, that before impressions of duty are made on the mind, ornamental education commences; and it ever after takes the lead: thus what should only be the embellishment, becomes the main business of life. There is no opportunity of attaining a knowledge of family management at school; and during vacations, all subjects that might interfere with amusement are avoided.

When a girl, whose family moves in the higher ranks of life, returns to reside at her father's house, after completing her education, her introduction to the gay world, and a continued course of pleasures, persuade her at once that she was born to be the ornament of fashionable circles, rather than to *stoop* (as she would conceive it) to undertake the arrangement of a family, though by that means she might in various ways augment the satisfaction and comfort of her parents. On the other hand, persons of an inferior sphere, and especially in the lower order of middling life, are almost always anxious to give their children such advantages of education as themselves did not possess. Whether their indulgence be productive of the happiness so kindly aimed at, must be judged by the effects, which are not very favourable, if what has been taught has not produced humility in herself, and increased gratitude and respect to the authors of her being. Were a young woman brought to relish home society, and the calm delights of agreeable occupation, before she entered into the delusive scenes of pleasure, presented by the theatre and other dissipations, it is probable she would soon make a comparison much in favour of the former, especially if restraint did not give to the latter additional relish.

If we carry on our observations to married life, we shall find a life of employment to be the source of unnumbered pleasures. To attend to the nursing, and at least early instruction of children, and rear a healthy progeny in the ways of piety and usefulness: to preside over the family, and regulate the income allotted to its maintenance: to make home the sweet refuge of a husband fatigued by intercourse with a jarring world; to be his enlightened companion and the chosen friend of his heart: these, these, are woman's duties! and delightful ones they are, if happily she be married to a man whose soul can duly estimate her worth, and who will bring his share to the common stock of felicity. Of such a woman, one may truly say, "Happy the man who can call her his wife. Blessed are the children who call her mother."

When we thus observe her, exercising her activity and best abilities in appropriate cares increasing excellence, are we not ready to say, she is the agent for good, of that benevolent Being, who placed her on earth to fulfil such sacred obligations, not to waste the talents committed to her charge?

When it is thus evident that the high intellectual attainments may find exercise in the multifarious occupations of the daughter, the wife, the mother, and the mistress of the house, can any one urge that the female mind is contracted by domestic employ? It is, however, a great comfort that the duties of life are within the reach of humbler abilities, and that *she* whose chief aim is to fulfil them, will rarely ever fail to acquire herself well. United with, and perhaps crowning all, the virtues of the female character, is that well directed ductility of mind, which occasionally bends its attention to the smaller objects of

life, knowing them to be often scarcely less essential to the greater

Hence the direction of a *table* is no inconsiderable branch of a lady's concern, as it involves judgment in expenditure, respectability of appearance, and the comfort of her husband and those who partake their hospitality.

The mode of covering the table differs in taste. It is not the multiplicity of things; but the choice, the dressing, and the neat pleasing look of the whole, which gives respectability to her who presides. Too much or too little dinners are extremes not uncommon: the latter is in appearance and reality the effort of poverty or penuriousness to be *genteel*; and the former, if constantly given, may endanger the circumstances of those who are not affluent.

Generally speaking, dinners are far less sumptuous than formerly, when half a dozen dishes were supplied for what one now costs; consequently those whose fortunes are not great, and who wish to make a genteel appearance without extravagance, regulate their table accordingly.

Perhaps there are few incidents in which the respectability of a man is more immediately felt, than the style of dinner to which he accidentally may bring home a visitor. Every one is to live as he can afford, and the meal of a tradesman ought not to emulate the entertainments of the higher classes; but if two or three dishes are well served, with usual sauces, the table-linen clean, the small sideboard neatly laid, and all that is necessary be at hand, the expectation of the husband and friend will be gratified, because no irregularity of domestic arrangement will disturb the social intercourse. The same observation holds on a larger scale. In all situations of life, the entertainment should be no less suited to the station than to the fortune of the *entertainer*, and to the number and rank of those invited.

The manner of carving is not only a very necessary branch of information, to enable a lady to do the honours of her table, but makes a considerable difference in the consumption of a family; and though in large parties she is so much assisted as to render this knowledge apparently of less consequence, yet she must at all times feel the deficiency; and should not fail to acquaint herself with an attainment, the advantage of which is evident every day.

Indeed as fashions are so fleeting, it is more than probable that before the end of this century, great attention to guests may be again the mode, as it was in the commencement of the last. Some people haggle meat so much, as not to be able to help half a dozen persons decently from a large tongue, or a surloin of beef; and the dish goes away with the appearance of having been gnawed by dogs. If the daughters of the family were to take the head of the table under the direction of their mother, they would fulfil its duties with grace, in the same easy manner as an early practice in other domestic affairs gradually fits them for their own future houses. Habit alone can make good carvers; but some principal directions are hereafter given, with a reference to the annexed plates.

The mistress of a family should always remember, that the welfare and good management of the household depend on the eye of the superior; and consequently that nothing is too trifling for her notice, whereby waste may be avoided; and this attention is of more importance now that the price of every necessary of life is increased to an enormous degree.

If a lady has never been accustomed, while single, to think of family management, let her not upon that

account fear that she cannot attain it; she may consult others who are more experienced, and acquaint herself with the necessary quantities of the several articles of family expenditure, in proportion to the number it consists of, the proper prices to pay, &c.

A minute account of the annual income, and the times of payment, should be taken in writing; likewise an estimate of the supposed amount of each article of expense; and those who are early accustomed to calculations on domestic articles, will acquire so accurate a knowledge of what their establishment requires, as will give them the happy medium between prodigality and parsimony, without acquiring the character of meanness.

Perhaps few branches of female education are so useful, as great readiness at figures. Accounts should be regularly kept, and not the smallest article omitted to be entered; and if balanced every week and month,* &c. the income and outgoings will be ascertained with facility, and their proportions to each other duly observed. Some people fix on stated sums to be appropriated to each different article, and keep the money in separate purses; as house, clothes, pocket, education of children, &c. Which ever way accounts be entered, a certain mode should be adopted, and strictly adhered to. Many women are unfortunately ignorant of the state of their husband's income; and others are only made acquainted with it, when some speculative project, or profitable transaction, leads them to make a false estimate of what can be afforded; and it too often happens that both parties, far from consulting each other, squander money in ways that they would even wish to forget; whereas marriage should be a state of mutual and perfect confidence, and similarity of pursuits, which would secure that happiness it was intended to bestow.

There are so many valuable women who excel as wives, that it is a fair inference there would be few extravagant ones, were they consulted by their husbands on subjects that concern the mutual interests of both parties. Within the knowledge of the writer of these pages, many families have been reduced to poverty by the want of openness in the man on the subject of his affairs; and though on these occasions the women were blamed, it has afterwards appeared, that they never were allowed a voice of inquiry, or suffered to reason upon what sometimes appeared to them imprudent.

Many families have owed their prosperity full as much to the propriety of female management, as to the knowledge and activity of the father.

The lady of a general officer observed to her man cook, that her last weekly bill was higher than usual. Some excuse was offered:—to which she replied:—"Such is the sum I have allotted to house-keeping: should it be exceeded one week, the next must repay it. The general will have no public day this week." The fault was never repeated.

"March's Family Book-keeper," is a very useful work, and saves much trouble; the various articles of expense being printed, with a column for every day in the year, so that at one view the amount of expenditure on each, and the total sum, may be known.

Ready money should be paid for all such things as come not into weekly bills, and even for them a check is necessary. The best places for purchasing should be attended to. In some articles a discount of five per cent. is allowed for ready money in our large cities, and those who thus pay are usually the best served. Under the idea of purchasing cheap, many go to new shops, but it is safest to deal with people of established credit, who do not dispose of goods by underselling.

To make tradesmen wait for their money injures them greatly, besides that a higher price must be paid; and in long bills, articles never bought are

often charged. Perhaps the irregularity and failure of payment, may have much evil influence on the price of various articles, and may contribute to the destruction of many families from the highest to the lowest.

Thus regularly conducted, the exact state of money affairs will be known with ease; for it is delay of payment that occasions confusion. A common-place book should be always at hand, in which to enter such hints of useful knowledge, and other observations, as are given by sensible experienced people. Want of attention to what is advised, or supposing things too minute to be worth hearing, are the causes why so much ignorance prevails on necessary subjects, among those who are not backward in frivolous ones.

It is very necessary for a woman to be informed of the prices and goodness of all articles in common use, and of the best times, as well as places, for purchasing them. She should also be acquainted with the comparative prices of provisions, in order that she may be able to substitute those that are most reasonable, when they will answer as well for others of the same kind, but which are more costly. A false notion of economy leads many to purchase as a bargain, what is not wanted, and sometimes never is used. Were this error avoided, more money would remain for other purposes. It is not unusual among lower dealers to put off a larger quantity of goods, by assurances that they are advancing in price; and many who supply fancy articles are so successful in persuasion, that purchasers not unfrequently go far beyond their original intention, even to their own future disquiet. Some things are better for keeping, and being in constant consumption should be laid in accordingly; such as paper, soap, &c. Of these more hereafter.

To give unvarying rules cannot be attempted, for people ought to form their conduct on their circumstances; but it is presumed that a judicious arrangement according to them, will be found equally advantageous to all. The minute management must be regulated by every one's fortune and rank. Some ladies, not deficient in either, charge themselves with giving out, once in a month, to a superintending servant, such quantities of household articles, as by observation and calculation they know to be sufficient, reserving for their own key the large stock of things usually laid in for very large families in the country. Should there be several more visitors than usual, they can easily account for increase of consumption, and vice versa. Such a degree of judgment will be respectable even in the eye of domestics, if they are not interested in the ignorance of their employers; and if they are, their services will not compensate for want of honesty.

When young ladies marry, they frequently continue their own maids in the capacity of housekeepers; who, as they may be more attached to their interest than strangers, become very valuable servants. To such, the economical observations in this work will be as useful as the cookery; and it is recommendable in them to be strictly observant of both, which, in the course of a year or two, will make them familiar in the practice.

It is much to be feared, that for the waste of many of the good things that God has given for our use, not abuse, the mistress and servants of great houses will hereafter be called to a strict account.

Some part of every person's fortune should be devoted to charity; by which, "a pious woman will build up her house before God, while she that is foolish, (i. e. lends nothing to the Lord,) pulls it down with her hands." No one can complain of the want of gifts to the poor in this land:—but there is a mode of relief which would add greatly to their comfort, and which being prepared from superfluity, and such materials as are often thrown away, the expense would not be felt. In the latter part of this work some hints for preparing the above are given.

By good hours, especially early breakfast, a family is more regular, and much time is saved. If orders be given soon in the morning, there will be more

time to execute them, and servants, by doing their work with ease, will be more equal to it, and fewer will be necessary.

It is worthy of notice that the general expense will be reduced, and much time saved, if every thing be kept in its proper place, applied to its proper use, and mended, when the nature of the accident will allow, as soon as broken.

If the economy of time was duly considered, the useful affairs transacted before amusements were allowed, and a regular plan of employment was daily laid down, a great deal might be done without hurry or fatigue; and it would be a most pleasant retrospect at the end of the year, were it possible to enumerate all the valuable acquirements made, and the good actions performed, by an active woman.

If the subject of servants be thought ill-timed in a book upon family arrangement, it must be by those who do not recollect that the regularity and good management of the heads will be insufficient, if not seconded by those who are to execute orders. It behoves every person to be extremely careful whom he takes into his service; to be very minute in investigating the character he receives, and equally cautious and scrupulously just in giving one to others. Were this attended to, many bad people would be incapacitated for doing mischief, after abusing the trust reposed in them. It may be fairly asserted, that the robbery, or waste, which is but a milder epithet for the unfaithfulness of a servant, will be laid to the charge of that master or mistress, who knowing, or having well founded suspicions, of such faults, is prevailed upon by false pity, or entreaty, to slide him into another place. There are however some who are unfortunately capricious, and often refuse to give a character because they are displeased that a servant leaves their service: but this is unpardonable, and an absolute robbery, servants having no inheritance, and depending on their fair name for employment. To refuse countenance to the evil, and to encourage the good servant, are actions due to society at large; and such as are honest, frugal, and attentive to their duties, should be liberally rewarded, which would encourage merit, and inspire servants with zeal to acquit themselves.

It may be proper to observe that a retributive justice usually marks persons in that station sooner or later, even in this world. The extravagant and idle in servitude, are ill prepared for the industry and sobriety on which their own future welfare so essentially depends. Their faults, and the attendant punishment, comes home when they have children of their own: and sometimes much sooner. They will see their own folly and wickedness perpetuated in their offspring, whom they must not expect to be better than the example and instruction given by themselves.

It was the observation of a sensible and experienced woman, that she could always read the fate of her servants who married, those who had been faithful and industrious in her service, continued their good habits in their own families, and became respectable members of the community:—those who were the contrary, never were successful, and not unfrequently were reduced to the parish.

A proper quantity of household articles should be always ready, and more bought in before the others are consumed, to prevent inconvenience, especially in the country.

A bill of parcels and receipt should be required, even if the money be paid at the time of purchase; and, to avoid mistakes, let the goods be compared with these when brought home.

Though it is very disagreeable to suspect any one's honesty, and perhaps mistakes have been unintentional; yet it is prudent to weigh meat, sugars, &c. when brought in, and compare with the charge. The butcher should be ordered to send the weight with the meat, and the cook to file these checks, to be examined when the weekly bill shall be delivered.

Much trouble and irregularity are saved when there is company, if servants are required to prepare the table and sideboard in similar order daily.

* The domestic account book, by E. J. Coale and F. M. Wills,—Price \$1, for sale in our Book Stores, is well arranged for this purpose, having lines ruled and printed for the different articles used in house-keeping and for every day in the year.—*Ed. A. F.*

All things likely to be wanted should be in readiness; sugars of different qualities kept broken, currents washed, picked and perfectly dry; spices pounded, and kept in very small bottles closely corked; not more than will be used in four or five weeks should be pounded at a time. Much less is necessary than when boiled whole in gravies, &c.

Where noonings or suppers are served (and in every house some preparation is necessary for accidental visitors,) care should be taken to have such things in readiness as are proper for either; a list of several will be subjoined, a change of which may be agreeable, and if duly managed, will be attended with little expense and much convenience.

A ticket should be exchanged by the cook for every loaf of bread, which when returned will show the number to be paid for; as tallies may be altered, unless one to be kept by each party.

Those who are served with brewer's beer, or any other articles not paid for weekly or on delivery, should keep a book for entering the dates; which will not only serve to prevent overcharges, but will show the whole year's consumption at one view.

An inventory of furniture, linen, and china, should be kept, and the things examined by it twice a year, or oftener if there be a change of servants; into each of whose care the articles used by him or her, should be intrusted, with a list as is done with plate. Tickets of parchment with the family name, numbered, and specifying what bed it belongs to, should be sewed on each feather-bed, bolster, pillow, and blanket. Knives, forks, and house-cloths, are often deficient; these accidents might be obviated, if an article at the head of every list required the former should be produced whole or broken, and the marked part of the linen, though all the others should be worn out. The inducement to take care of glass is in some measure removed, by the increased price given for old flint glass. Those who wish for trifles—dishes, butter-stands, &c. at a lower charge than cut glass, may buy them made in moulds, of which there is a great variety that look extremely well, if not placed near the more beautiful articles.

The price of starch depends upon that of flour; the best will keep good in a dry warm room for some years, therefore when bread is cheap it may be bought to advantage, and covered close.

Sugars being an article of considerable expense in all families, the purchase demands particular attention. The cheapest does not go so far as that more refined, and there is a difference even in the degree of sweetness. The white should be chosen that is close, heavy and shining. The best sort of brown has a bright gravelly look, and it is often to be bought pure as imported. East India sugars are finer for the price, but not so strong, consequently unfit for wines and sweatmeats, but do well for common purposes, if good of their kind. To prepare white sugar, pounded, rolling it with a bottle, and sifting, wastes less than a mortar.

Candles made in cool weather are best; and when their price, and that of soap, which rise and fall together, is likely to be higher, it will be prudent to lay in the stock of both. This information the chandler can always give; they are better for keeping eight or ten months, and will not injure for two years, if properly placed in the cool; and there are few articles that better deserve care in buying, and allowing a due quantity of, according to the size of the family.

Paper, by keeping, improves in quality; and if bought by half or whole reams from large dealers, will be much cheaper than purchased by the quire. The surprising increase of the price of this article may be accounted for by the additional duties, and a larger consumption, besides the monopoly of rags; of the latter it is said, there is some scarcity, which might be obviated if an order were given to a servant in every family to keep a bag to receive all the waste bits from cuttings out, &c.

Many well-meaning servants are ignorant of the best means of managing, and thereby waste as much as would maintain a small family, besides causing the mistress of the house much chagrin by their irregu-

larity; and many families, from a want of method have the appearance of chance rather than of regular system. To avoid this, the following hints may be useful as well as economical:—

Every article should be kept in that place best suited to it, as much waste may be thereby avoided, viz.

Vegetables will keep best on a stone floor if the air be excluded. Meat in a cold dry place. Sugar and sweatmeats require a dry place; so does salt Candles cold, but not damp. Dried meats, hams, &c. the same. All sorts of seeds for puddings, saloop, rice, &c. should be close covered to preserve from insects; but that will not prevent it, if long kept.

Bread is now so heavy an article of expense that all waste should be guarded against; and having it cut in the room will tend much to prevent it. Since the scarcity in 1795 and 1800, that custom has been much adopted. It should not be cut until a day old. Earthen pans and covers keep it best.

Straw to lay apples on, should be quite dry to prevent a musty taste.

Large pears should be tied up by the stalk.

Basil, savoury, or knotted marjoram, or thyme, to be used when herbs are ordered; but with discretion, as they are very pungent.

The best means to preserve blankets from moths is to fold and lay them under the feather-beds that are in use; and they should be shaken occasionally. When soiled, they should be washed not scoured.

Soda, by softening the water, saves a great deal of soap. It should be melted in a large jug of water, some of which pour into the tubs and boiler; and when the latter becomes weak add more. The new improvement in soft soap is, if properly used, a saving of near half in quantity; and though something dearer than the hard, reduces the price of washing considerably.

Many good laundresses advise soaping linen in warm water the night previous to washing, as facilitating the operation with less friction.

Soap should be cut with a wire or twine, in pieces that will make a long square when first brought in, and kept out of the air two or three weeks, for if it dries quick, it will crack, and when wet, break. Put it on a shelf, leaving a space between, and let it grow hard gradually. Thus, it will save a full third in the consumption.

Some of the lemons and oranges used for juice should be pared first to preserve the peel dry; some should be halved, and when squeezed, the pulp cut out, and the outsides dried for grating. If for boiling in any liquid, the first way is best. When these fruits are cheap, a proper quantity should be bought and prepared as above directed especially by those who live in the country, where they cannot always be had; and they are perpetually wanted in cookery.

When whites of eggs are used for jelly, or other purposes contrive to have pudding, custard, &c. to employ the yolks also. Should you not want them for several hours, beat them up with a little water, and put them in a cool place, or they will be hardened and useless. It was a mistake of old, to think that the whites made cakes and puddings heavy; on the contrary, if beaten long and separately, they contribute greatly to give lightness, are an advantage to paste, and make a pretty dish beaten with fruit, to set in cream, &c.

If copper utensils be used in the kitchen the cook should be charged to be very careful not to let the tin be rubbed off, and have them fresh done when the least defects appears, and never to put by any soup, gravy, &c. in them, or any metal utensil; stone and earthen vessels should be provided for those purposes, as likewise plenty of common dishes, that the table may not be used to put by cold meat.

Tin vessels, if kept damp, soon rust, which causes holes. Fenders, and tin-linings of flower pots, &c. should be painted every year or two.

Vegetables soon sour, and corrode metals and glazed red ware, by which a strong poison is pro-

duced. Some years ago, the death of several gentlemen was occasioned at Salt-hill, by the cook sending a ragout to the table, which she had kept from the preceding day in a copper vessel badly tinned.

Vinegar, by its acidity, does the same, the glazing being of lead or arsenic.

To cool liquors in hot weather, dip a cloth in cold water, and wrap it round the bottle two or three times, then place it in the sun; renew the process once or twice.

The best way of scalding fruits, or boiling vinegar, is in a stone jar on a hot iron hearth: or by putting the vessel into a saucepan of water, called a water-bath.

If chocolate, coffee, jelly, gruel, bark, &c. be suffered to boil over, the strength is lost.

The cook should be encouraged to be careful of coals and cinders, for the latter there is a new contrivance to sift, without dispersing the dust of the ashes, by means of a covered tin bucket.

Small coal wetted makes the strongest fire for the back, but must remain untouched until it cakes. Cinders lightly wet, give a great degree of heat, and are better than coal for furnaces, ironing-stoves, and ovens.

The cook should be charged to take care of jelly-bags, tapes for the collard things, &c. which if not perfectly scalded, and kept dry, give an unpleasant flavour when next used.

Cold water thrown on cast-iron, when hot, will cause it to crack.

In the following and indeed all other receipts, though the quantities may be as accurately directed as possible, yet much must be left to the discretion of the person who uses them. The different tastes of people require more or less of the flavour of spices, salt, garlic, butter, &c. which can never be ordered by general rules; and if the cook has not a good taste, and attention to that of her employers, not all the ingredients which nature and art can furnish, will give exquisite flavour to her dishes. The proper articles should be at hand, and she must proportion them until the true zest be obtained, and a variety of flavour be given to the different dishes served at the same time.

Those who require maigre dishes will find abundance in this little work; and where they are not strictly so, by suet or bacon being directed into stuffings, the cook must use butter instead; and where meat gravies, (or stock as they are called,) are ordered, those made of fish must be adopted.

AGRICULTURAL.

VIRGINIA AGRICULTURAL MEMORIAL. *Recently presented to Congress.*

The first general meeting of delegates from the United Agricultural Societies of Virginia, was held at Parker's tavern in Surry county, on the 10th, 11th and 12th inst.

The delegates having, according to the articles of union, organised themselves, formed rules and regulations for their government, proceeded to the appointment of their officers.

Gen. John Pegram, elected President.

Nicholas Faulcon, Vice President.

Edmund Ruffin, Secretary.

Theophilus Field, Treasurer.

Resolved, That the annual meetings of the delegates hereafter be held at French's tavern, in the town of Petersburg, on the first Wednesday in December, of each year.

Resolved, That the United Societies be requested to transmit such of their agricultural communications as they may deem proper, to the adjourned meeting, to be held on the first

Monday in June next, and to the annual meetings thereafter.

A memorial remonstrating against the protection of manufactures, was unanimously approved, ordered to be signed by the president, and transmitted to our representatives, to be presented to the congress of the U. States. The meeting was then adjourned to the first Monday in June.

At a general meeting of delegates of the United Agricultural Societies of Virginia, at William Parker's tavern, in the county of Surry, on the 10th of January, 1820, present,

Thomas Cooke, } Delegates from the Agricultural Society of Prince George.

John Edmunds, }
George Blow, } Delegates from the Agricultural Society of Sussex.
Wm. F. Ruffin, }
Wm. J. Cocke. }

Nicholas Paulson, } Delegates from the Agricultural Society of Surry.
Charles H. Graves, }
Richard Cocke. }

John Pegram, } Delegates from the Agricultural Society, Petersburg.

Roger A. Jones, }
Theophilus Field, } Delegates from the Agricultural Society of Brunswick.
John Jones, and }
Henry Lewis. }

The following Memorial being adopted unanimously was ordered to be signed by the President and Secretary of the Delegation, and transmitted to our Representatives, to be laid before the Congress of the United States.

Your memorialists present themselves to your honourable Houses, as a portion of the independent agriculturists of Virginia. In that character, we design not to harass our representatives with high-wrought pictures of distress, which their wisdom could not have anticipated, and cannot remove. Neither can we bring ourselves to detail, in the language of complaint, much less of reproach, those evils which we endure in common, not only with every class and denomination of our fellow citizens, but with almost every rank and description of civilized man. We solicit not the fostering care or patronage of the Legislature, to alleviate, by bounties, monopolies, or protecting duties, calamities in their nature as inevitable as they are incurable, by legislative interposition, because, resulting from a combination of circumstances over which our Legislature can exercise no control. War is an unnatural and calamitous state; its evils must be felt sooner or later, and not less severely by being deferred. The transition from war to peace was sudden, and found us, like the rest of the world, unprepared. But we can bear patiently the penalty of our own improvidence, convinced that our distresses will be but temporary, and recollecting that they were preceded by twenty years of almost uninterrupted prosperity. In this frame of mind, which we recommend to the imitation of our more discontented brethren, we have only to solicit, respectfully but earnestly, from your wisdom and experience, that we be left to ourselves to disembarass our own affairs by active industry and strict economy, instead of being placed at the mercy of interested individuals, who would flatter us with relief, by abridging our comforts, increasing our expenses, and diverting to their own pockets that portion of the produce of our labour, which, differently applied, might serve to extricate us from our present difficulties. The undefined projects and extravagant claims of the manufacturing associations, collected from their circulars, reports of committees, and other publications, could alone lead us to apprehend that we may not be left to this repose, which we so earnestly solicit, and which the difficulties of our present situation so imperiously demand. We have always suspected the policy of forcing any branch of trade or manufacture, by bounties, monopolies or protecting duties. But, without entering into the discussion of the general question, we would respectfully suggest, that no period more unfavourable than the present could be selected for the commencement of an experimental course of political economy, beginning with the taxation of the many for the emolument of the few. When we consider the taxes already imposed on foreign manufactures, (averaging perhaps twenty-five per cent.) and estimate the amount of freight, double commissions, insurance, and various other charges incident to shipping and transporting to this country the products of the foreign artisan, a moderate calculation will give to the American manufacturer an advantage of 40 per cent.

If to this immense advantage over the European competitor, we add the cheap terms on which the chief necessities of life, meat, bread, and fuel, can be procured, the abundance in which the raw materials are produced, our happy exemption from the whole of that frightful catalogue of oppressive taxes, which, barely to read, makes the American citizens shudder; but under the continually accumulating weight of which the foreign artisan must labour; and still further, on the authority of the advocates of protecting duties, a considerable capital unemployed, and numerous labourers starving in idleness, and you exhibit a series of advantages on the side of the American manufacturer, which would seem to put competition in our own market, entirely out of the question. If, with such overwhelming odds in his favour, the American declines to compete with the foreign manufacturer, we must conclude either that capital is wanting to fit him out for the trial or he scorns the consideration of such profits, as would satisfy his opponent. If the former conclusion be true, it demonstrates the impropriety of attempting, at this time, to force manufactures by law—for, as capital is essentially necessary, and cannot be forced by law, we had better await its slow growth, from the gradual operation of the usual causes, and whenever it arrives at sufficient maturity, manufactures will follow without force. But if, on the other hand, our manufacturers are so impatient to enrich themselves, as to disdain the gradual accumulation of moderate profits, we submit then respectfully to your wisdom the impolicy of subjecting so large a portion of your fellow-citizens to such unreasonable cupidity.—Of laying them at the mercy of an association, who (competition being removed) will no longer consider the intrinsic value of an article, or what price would afford a fair profit to the manufacturer, but how much the necessities of the consumer would enable them to extort. Of this spirit, we had

a sufficient specimen during the late war with Great Britain.

In reply to these arguments, we are told that many manufacturing establishments have been ruined for want of protecting duties. We doubt not the fact of ruin; but we more than doubt the cause assigned for it. We strongly suspect, that, on fair investigation, most of the failures may be accounted for very differently. For instance: 1st.—By embarking in business on fictitious capital; the sudden recal of which, left the adventurers, as they originally were, without funds. 2d.—Engaging in speculations unconnected with their factories, and, by the failure of these ruining their establishments. 3.—From the impatience of growing rich by the gradual accumulation of moderate gains, stimulating them to attempt establishments and projects beyond their means. Few, we believe, of those who commenced with real capitals, and pursued their business prudently have failed to improve their fortunes. The greater part of this description of persons acknowledge, with honest candour, that they are sufficiently protected.—But, as we have forced none of our fellow citizens to embark their capitals in the precarious speculation of establishing manufactures, perhaps before their time—nay, as they have voluntarily involved themselves in ruinous projects, not from patriotic motives but views purely selfish and founded on the fallacious prospect of a protracted war, we see no reason why they should call upon us to reinstate them, by a heavy sacrifice, and this, too, at a time when it is with the utmost difficulty any of us can fulfil our own personal engagements, and many are reduced to the necessity of sacrificing their property to satisfy their creditors. Under these circumstances, we hope that your honourable houses will not deem unreasonable our respectful remonstrance, against any increase of burthen beyond the necessary expenses of our government. One favourite argument, insisted on by the manufacturers, is so offensive a libel on the great body of the American people, that indignation will not suffer us to pass it unnoticed, to wit: that the establishment of home manufactures is necessary to keep the people firm to their duty in time of war. Thus more than insinuating, that the millions of independent, high-minded agriculturists who people our extensive territory, constituting at once the pride and the strength of the nation, are to be taught the value of independence, and the necessity of self-defence, by the operations of an inconsiderable number of manufacturers scattered through the country. In every nation with whose internal affairs we are familiarly acquainted, the landed interest has been proverbial for liberality, in comparison with any other class; and we proudly believe that the day will never arrive when the American yeoman will not suffer himself, patiently, to be shorn to the quick in defence of the independence or honour of his country, while, if "you but touch a bristle of the manufacturing interest, the whole sty is in uproar." We wish not to be placed under such protections, especially when their projects for our safety are accompanied by the alarming declaration, that they consider the election of a President, a Governor, or a Representative of the People, as uninteresting in comparison with

a question on the fabrication of druggets, calicoes, and pen-knives.*

The specious vision of supplying all our own wants by our own labour, and thus being enabled to insulate ourselves from the other members of the human family, we look upon as a mere phantom, conjured up for the purpose of luring us into a prohibitory system. Could such a vision be realized, we would deprecate its influence as equally hostile to the advancement of science and duration of liberty. We do not envy the condition of the Chinese, the only people completely abandoned to this chimera, amongst whom science has been retrograde for a thousand years—the whole energies of the human mind reduced to the servile talent of imitation, and men degraded to a state of abject, grovelling slavery. Compare the timid slave, creeping through shallows in his clumsy junk, with the American seaman, “among the tumbling mountains of ice of the arctic circle, penetrating to the antipodes, and engaged under the frozen serpent of the south. Yet we know that he has not been squeezed into this hardy form, or inhaled this daring spirit, from the constraints of a watchful and suspicious government, but that, through a wise and salutary neglect, a generous nature has been suffered to take its own way to perfection.”

We are firmly persuaded, that the best interests of men and of nations are promoted by free and extensive intercourse, one with another.—The great object of nations ought to be, to procure the greatest possible quantity of produce, with the least possible expenditure of labour and of capital; this can be effected only by permitting the people to purchase such articles as they can buy cheaper than they can fabricate. Thus would be produced a most unrestricted state of commerce, permitting every country to employ its capital and industry to the greatest advantage; in devoting them to pursuits adapted to the soil and climate of each, and consonant with the genius of their respective inhabitants. For these, and other considerations equally cogent, your memorialists feel themselves constrained to remonstrate against the pretensions of the manufacturing interest, as of a highly dangerous tendency. Whether considered with respect to their influence on our government, by establishing the precedent of investing one class with peculiar privileges and immunities at the expense of the rest; a measure pregnant with the most fearful consequences, being as inconsistent with the principles of justice, as incompatible with the spirit of our free constitution; their tendency to demoralize our people by the introduction of smuggling, an evil inseparable from high protecting duties, and one from which the United Navies of Europe and America could not guard a coast as extensive as ours; their effect on our revenue, already diminished by protecting duties, without producing any corresponding energy on the part of our manufacturers, and which, if further diminished by an increase of tariff, and by deriving capital from the purchase of public lands, must necessarily call for a system of internal taxation, in

the present state of our affairs, productive of incalculable distress. Commerce must decline under such a system; with its decline, our seamen must diminish, and our gallant Navy, after achieving more than our fondest hopes could anticipate, dwindle into insignificance. This sacrifice too, we are called upon to make, that our manufacturers may be enabled to furnish us with cottons and woollens, fifty per cent. higher than we could procure them in a foreign market.

With this view of the subject, your memorialists pray that no further protection be granted to manufactures, excepting such as, in your wisdom, you may deem essential for national defence, and that the existing duties be so reduced, as to produce the greatest possible revenue; and we revert to our original prayer, to be left to ourselves to disembarass our own affairs without being called on to repair the losses of any other class, still less to advance them to wealth and power, at the expense of the best interests of the American people.

JOHN PEGRAM,

President of the Delegation.

EDMUND RUFFIN, *Secretary.*

For the American Farmer.

St. Domingo, January 12th, 1820.

MR. SKINNER: Finding different opinions exist amongst our most experienced farmers on many subjects, I am induced to offer you my opinion on fall ploughing, as a preparation for a corn crop, which I have been induced to do from the able remarks of Thomas Mendell on that subject, published in your last number of the Farmer; and I must first observe, that I agree with Mr. Mendell generally, but think I have seen soils, where fall ploughing as a preparation for corn crop, did not answer a good purpose; I think the exceptions are level stiff clay, and gravelly soils; the reasons why a fall ploughing as a preparation for corn, does not answer on these soils, are very different and apparently contradictory; the water lays too much on the first, and soaks or runs too fast through the last. I have seen level allumene (perhaps a little mixed with fullers earth) ploughed in the fall, the snow water and winter rains would lay on it until late in the spring, and as it dried it congealed and had the appearance of having been liquified, it would crack and become so hard, that it was much worse to plough in the spring than it had been in the fall. The evil did not stop here; when ploughed in the spring, it turned up in large hard clods, which is extremely difficult to pulverize.* As it regards the silex, or gravelly lands, they absorb water very fast are most commonly poor soil, and manure does not last long upon them. I think that the large quantities of snow and rain water that soak through such lands in the winter, and especially while in a newly ploughed state, carry along with them a considerable part of the richest vegetable mould; and if manured, take most of the strength of that manure beyond the reach of vegetation, for it appears evident that the water that is let down into the sub-soil is muddy or

a kind of earthy ley; which is the most valuable for vegetation. Land of this kind, ploughed and put in a light loose state, would certainly lose much more in this way than if left unploughed until the spring: I am further of the opinion, that much of the land in Maryland shows silex on its surface now, that did not when in a state of nature; and that this change has been produced on all lands that have been much ploughed, having a sub-soil of silex, by the waters taking down the surface soil through the fissures of a loose silex sub-soil. By this process, in time the sub-soil becomes the surface soil; which evil, fall ploughing greatly facilitates on such lands.

Yours, etc. A YOUNG FARMER.

To the Editor of the American Farmer.

ON THE Means of Destroying Garlic.

Elmwood, January 12th, 1820.

Dear Sir: In your number —, I read a paper on the means of eradicating wild garlic: one of the most disagreeable weed tenants of either pasture or seed ground. Its continuance has been a standing reproach to the ingenuity of our farmers.

I have no doubt, but Mr. Bond got rid of his portion, by following the plan he has directed. But there must be some secret principle, yet to be developed, to make it a matter of certainty; for the broad letter of his instructions, i. e. his rotation of crops and ploughing, have been often followed without the intention of destroying the garlic; and if it had been so effectual, it certainly would have been a matter of general notoriety.

Although I had this matter *in ovo*, yet it was not my intention to have brought it forth at this time, till I saw the piece alluded to. I therefore concluded to keep the subject alive, till some more skillful hand should give it a finishing stroke.

Three years past, a neighbour of mine ploughed up an old clover field in the fall, fully set with this ill flavoured bulb. The ploughing not being to his mind and the weather tempting, he gave it a second ploughing about the first of December; the next summer he ploughed in the stubble of the oats, which he had made his spring crop. In the fall he sowed wheat, and in the spring following clover among the wheat; scarcely a spire of garlic has peeped forth from the first breaking up, and it is probable never will. But mark this! when the oat stubble was ploughed in, I examined the earth, and found it full of bulbs *perfectly alive*. It did not appear that the frost of winter, had destroyed one in a hundred, nor was it to be expected; for if a bulb, growing two inches in the ground, is overthrown by a four inch ploughing, it is just as safe as before from the frost, and if by six inch ploughing, it is really safer than when naturally fixed; some other theory or philosophy for the destruction, must therefore be inquired into; for a false theory will surely lead to a false practice.

The habits of other bulbous roots, will form a clue to a true theory. These, such as hyacinths, snow-drops, etc. during summer lay dormant, and do as well in our drawers as in the earth. In the cool of the fall, they begin to send out a

* Vide Circular of the Northern Manufacturers.

* Easy with 1st, the plough—2nd, the roller—3rd, the cultivator.—EDR.

scape and strong radicles, the scape being stopped near the surface of the earth by the cold, and the bulbs in full vigour, they produce off-sets and coats, if a coated bulb; scales in a scaly bulb. It is at this critical moment, that a ploughing makes a baulk and interrupts this important vegetable process, that is forming a new progeny to succeed the old bulb, and it is but too plain, that all ploughing and turning before this full growth of radicles and scapes, would be no more than taking them out of one drawer and placing them in another; *precise time*, then, is every thing, and the first ploughing should not be early (as an industrious man would be likely to make, believing that the winter frosts was the destructive power) but *late* in the fall; and I am convinced, that the *winter* and not the fall ploughing, was the effectual one in the field I have mentioned. Following the same clue, will teach us that there is a period to the life of mother bulbs; which we may compute at five years or thereabouts;* two for arriving at puberty, and three for generating off-sets. If therefore the forming of off-sets is interrupted, the mother bulb will die a natural death of course, without a succession. Whilst the junior bulbs, being equally interrupted in forming coats, will become sickly and unable to stand the vicissitudes of seasons, or the rude displacements of the plough. This opinion I consider true in substance, though there are many particulars yet wanting, to complete a perfect theory and practice.

It is probable that when the bulbs are once interrupted at the most essential time, i. e. radiating, that they are not ready to fall exactly into the same periods again. I am led to believe this, because I have seen them raising their spiry scapes towards fall, in ground that was sowed in turnips, where they had met with some interruptions, so that after the first great interruption in the late fall ploughing, it would be well to examine the ground from summer to fall. The ploughing in of the stubble in the field alluded to, had certainly no manner of effect on the garlic; for the bulbs were without radicles at that time, but it is highly probable, that they began to shoot early, to make up for lost time. If this be so, the second fall ploughing (i. e. the second year) should be early, say September; an inspection, as before said, would determine this point, and leave but one item to be settled, i. e. how many crops are absolutely necessary to reach the *lifetime* of the mother bulbs. I would therefore recommend as a safe practice, some extension beyond what was done in the field above-mentioned. Thus, a ploughing in November or December, and a spring crop of oats or barley; a ploughing in September or October, and a crop of rye; and the following season, a crop of wheat with top dressing, and clover in the spring. I know that this is a good succession, if the rye is well taken off the field.

SILVANUS.

* For a very interesting and ingenious treatise on the economy of vegetation, corroborating in a great measure the views here presented by Sylvanus, the reader is referred to Darwin's *Phytologia*, page 127. When room can be had, the whole chapter shall be given, in the Farmer.

Editor.

For the American Farmer.

PROCEEDINGS OF THE AGRICULTURAL SOCIETY
OF ALBEMARLE.
ON PEACH TREES.

No. VIII.

Sir,—A late indisposition, at the time I had allotted to myself to redeem the pledge on my part, which was mutually given by several members of the society at our last meeting, to embody such information as each might possess upon certain subjects, must be my apology for offering the following partial performance of that engagement.

A full and comprehensive account of the best management of fruit trees—the kinds of each species now held in estimation—with the remedies for the maladies and destroying insects, to which they are becoming more and more subject; is a desideratum in domestic and rural economy, which I will not mislead the society in saying it will ever be in my power to supply. But had it not been for the cause already assigned, I should certainly have touched upon more branches of this subject than one, and not have contented myself upon this one, with copying a paper which I published some years ago in a magazine, so limited however in its circulation in this quarter, that I dare say, the information it contains, will be new to nine-tenths of the members of the society. It was addressed to Doct. Mease, Editor of the *Archives of Useful Knowledge*, and dated at

Bremo, Fluvanna County, Va. May 1812.

"A remedy against the insect which deposits its eggs in the bark of the peach tree, has become an object of importance in the cultivation of this valuable fruit. The peach trees all over Virginia have experienced the destructive effects of this insect, and accordingly various remedies have been tried, some of which for a time have promised success, but finally issued in disappointment. The fly lays its eggs in the bark of the tree, just at the surface of the earth, where the rougher and harder bark of the trunk begins to change to the softer character of that which covers the roots. In this part the insect is able to puncture the surface, and there introduce its eggs. This is performed, in our climate, from the middle of July, through August and September. Early in August,

for the most part, I find the worms have assumed the chrysalis state, and soon after, say 8 or 10 days, are transformed into flies when they immediately begin to deposit their eggs, which are soon hatched into worms; and thus the round of transformations common to the insect tribes is completed. While in the worm state they do the mischief by preying upon the soft inner bark, which is the medium of circulation for the

sap; thus interrupting the flow of the sap, the immediate consequence of which is great injury to the fruit, and, finally, its destruction with the life of the tree also.

"I think I have discovered a remedy for this mischievous insect in tobacco. As much cured tobacco as is tied up in a bundle for prizing, is sufficient for a tree of moderate size. The tobacco, in a moist state so as to render it flexible, is bound around the body of the tree, just at the surface of the earth, encircling the part where the flies deposit their eggs. This precaution is to be taken a little before the hatching of the flies—the middle of July I find is early enough here. I do not attribute the success of this remedy, to its covering the vulnerable part of the tree merely; for I am informed in other parts of the country, where common straw and other coverings have been used they have failed. In these cases the fly gets as close to its favourite region, as the covering will admit, and finding some fissure in the bark, there deposits its eggs; but the tobacco, which in its essential qualities is so generally offensive to the insect tribes, is so also, I suppose to this destructive fly, and thereby prevents its approach. Be this however, as it may, I will go on to detail my experience as to the fact. I made my first experiments with tobacco, three years past this summer, confined to ten or 12 trees; the next spring I found that the trees still threw out gum, at the surface of the earth, and apprehended my experiment had failed; upon a close examination, however, I discovered that the gum had issued from the old wounds of the worms of the former year not yet entirely healed. The succeeding summer, I extended the experiment to all my peach trees of favorite selected fruit, consisting of between 50 and 100; and the same result was observed as in the preceding spring; in many cases gum issuing from the old wounds, but no worms, in any instance, where the tobacco had been applied. The last summer I again applied the tobacco upon a still larger scale, and this spring have again examined the trees. I find that those which have had the benefit of the tobacco application two successive years, have all their wounds entirely healed, and, in no instance, have I found the worms to have existed, where the tobacco has been used, and preserved through the period of the existence of the flies."

Since the above was written, I have continued to experience uniform success from the use of tobacco, and have now several hundred young peach trees, in perfect health and full bearing, which I attribute entirely to the use of that remedy, and although my neighbours complain that their peach trees are many of them dead, and all rapidly declining, I know of no case where this reme-

ly has been adopted, although I have taken some trouble to make it known around me.

JOHN H. COCKE.

P. MINOR, Esq.

Sec'y. of the Agri'l. Society of Albemarle.

FOR THE AMERICAN FARMER.

ON HEDGING---No. 6.

BY CALLEB KIRK OF DELAWARE

(Continued from No. 43, page 337.)

The last number on this subject was fully demonstrated by a drawing, not only to assist the young husbandman in the best mode of forming his live fences, but to give a view of what may be considered a specimen of a *finished hedge*; one that has attained maturity, being thirteen years old from the time of planting, and needing no further care but that of *annual trimmings*, bearing or clipping the extra shoots, that incline to enlarge it beyond proper limits; according to the mode heretofore treated of.

It now becomes the next inquiry *what is the cost* of obtaining such a desirable enclosure, to protect and secure the labours of the farmer. And, at the same time, ornament his farm. The following is a correct estimate, as near as the nature of the case will admit, calculated for the attitude or neighbourhood of the writer of these notes; being from actual experiments, made by himself and some neighbouring farmers pursuing the same plan of hedging; taking a given quantity or distance say one hundred pannels of post and rail fence, measuring ten feet to the pannel, which is the usual length, making *sixty perches* and ten feet over.

One thousand quicks will plant that distance, and cost from nursery \$5
Planting them by a man and boy, each two days; man's wages and board at 75 cts. 1 50
Do. boy's do. at 50 cts. 1
One dressing the first year by running a furrow or two with the plough, 25
And then a light dressing with the hoe, (same hand.) 75

Expense of the first year 8 50
1st year dressing as above \$1
2^d year do. 1
3^d year do. 1 } 5 yrs. dress. 5
4th year do. 1
5th year do. 1
6th year trenching to prepare for plashing plough and horse, 50
and 3 days work at 75 cts.
throwing up a ditch, 2 25
500 stakes, counting labour as above, including timber, 3 50
Wattles and cutting them, 2
One hand 3 days at plashing, at \$1* 3

Expense of 7th year 11 25 11 25

Carried over \$24 75

* The wages of a hand to plash is at \$1, being an artist at the business, but that will, when generally in practice be done by common labourers as readily as any other labour on a farm with little attention of the owner.

Brought forward	\$24 75
4 th year 1 days work trimming and cleaning,	75
5 th do.	75
10 th do.	75
11 th do.	75
12 th do.	75
13 th do.	75

Expense of 6 years 4 50 4 50

\$29 25

The foregoing process has produced such a hedge as is exhibited in the drawing, taken from a section of one thirteen years old, now in good condition and improving, becoming more dense every year, and, so far as I am able to form a judgment, I am of the opinion that seventy-five cents annually applied to the trimming, will keep it in that form perpetually, not being yet able to discover any thing to found an idea of dissolution upon, in any reasonable time, therefore sufficient to ground a confidence of durability.

The calculation on this section of sixty perches will afford data to apply to any quantity of greater extension, and the annual expense on this, after the seventh year, is uniform, and may be considered to continue so, for as long a time as they are regularly attended to, which will apply to any extent, at one cent and a quarter per rod or perch of 16 1-2 feet.

If the writer of those observations had commenced hedging with the knowledge now obtained by experience, one half his labour would have been saved.

The expense of a fence made of timber, say post and rail which is the most common in the vicinity of this place, is seventy-five cents for each pannel of a four rail fence, to those who have their fencing to purchase and the labour to pay; that is *seventy-five* dollars for one hundred pannels, that compared with the same length of hedging places the case \$75.

For a perishable material with 13 years of the time gone and 29 50
For a hedge growing better every year, leaving 43 50

of a balance in favour of sixty perches and ten feet distance, what that will amount to on a large farm, I shall leave to the owner's calculation.

I may further remark the labour of making live fence can be done by weak hands if rightly directed; my plashing was done by a man 74 years of age. The making of rails and handling them requires a person in prime of life, and the labour is heavy, in every stage of the process of erecting wooden fences, besides the destruction of much valuable timber, which in some neighbourhoods is a heavy tax on the owner.

Each person may make his calculations of fences composed of timber, but my calculations may be relied on as to hedges if the rules and remarks foregoing are strictly attended to. This will apply to either kind of thorn, but it was the "Virginia parsley leaved thorn," of Marshall's catalogue of forest trees, that was preferred, and which grows spontaneously, from this place to the south as far as the Mississippi, and I have no doubt of its thriving in a northern latitude, seeing no bad effect from the winters of our Delaware climate, although I had a section

plashed in the midst of winter to prove the consequence.

The hedge may be considered as made in seven years from the time of planting, as it is only trimming, that is required afterwards; which amounts to one cent and a quarter for each perch of distance; the quarter may be thrown off, if the clipping is never omitted in due time, as it lessens the labour, a rule that will apply through every operation in husbandry, and should never be forgotten while twenty-five per cent. is saved by it, and often fifty.

THE FARMER.

BALTIMORE, FRIDAY, JANUARY 28, 1820.

A letter from Marietta, Ohio, communicating a new method of curing bacon, and the English mode of feeding hogs, has been received and will be attended to.

FOR THE AMERICAN FARMER.

Baltimore County, 24th Jan. 1820.

MR. SKINNER:

Not having seen in your paper a single communication sufficiently explicit on the culture of Ruta Baga, or the uses it may be applied to, when properly managed, (except your extract from Cobbett) I take the liberty of enclosing you my experiments on that valuable plant, during the last summer; that, those who have been discouraged either by the unfavourableness of the season, the want of attention, and still more by the bad advice and sneers of their neighbours, may not give it up.

I retired last spring from town and removed within a few miles from it on as poor a spot of ground as can be well imagined, naturally sterile, but made more so by bad management. Mr. Cobbett's publication on Ruta Baga, forcibly attracted my attention, and I determined to give that plant a fair trial. I therefore went to work and had two acres ploughed, rolled and harrowed until perfectly pulverised, then thrown into ridges, exactly as recommended by Mr. Cobbett. I put the manure in the ridges and threw the ground back, so that the top of the ridges were exactly on the manure. On the tenth of June I began to sow daily on a few of those ridges, to ascertain for the next year the best time for sowing in this latitude; I had the seed dropped at the distance of ten inches, two seeds in a hole; this I continued until the first of July, the seeds came up partially, but the drought was so great that nearly all the young plants were destroyed a day or two after their appearance. I was laughed at by some of my neighbours, men of judgment and old farmers, for my attempts; a little discouraged, I altered my mode of sowing; instead of dropping the seed at the distance of ten inches, I sowed it very thickly on the ridges, some every day, until the 10th July; the drought still continued so excessive, that the greatest part of the young plants that had come up from the last sowing, shared the fate of the first; however, I still had about the first of August, plants sufficient as I presumed, to set out the whole of my two acres; too anxious to have my plants set out, I pulled them up too soon; the consequence

was that, the roots not striking deep enough in the ground, could not withstand the continued drought and perished as fast as set out. About the middle of August, I succeeded at last in transplanting handsomely three-fourths of an acre; I weeded them in September with the plough; in October and November I fed my cows and hogs on the tops, which I found they preferred to cabbage leaves. In the first week of December I had them taken up—many measured from 24 to 30 inches, a few more, but suppose they averaged 20 inches—I had them trimmed and put in the cellar—I had about 300 bushels. I continued to feed with the tops that had been cut off—when entirely gone, I began to feed my cows with the raw roots; the hogs will not touch them unless boiled. I fattened in five weeks, an old cow entirely with the roots and tops raw; but not wishing to risk the only beef I had to put up, the sixth week I added daily three quarts of meal—I never saw finer, fatter or firmer beef in my life—my cows are now fed with the roots and have had nothing else for four weeks, having no hay—the butter from them as well as the milk, are entirely free of any bad taste, the butter is more yellow and better tasted than any I have seen this winter. As a further trial, about the 20th of August I sowed about an acre broad cast to remain out all winter; the plants were before the snow covered them about the common size of beets, and seemed to stand well the severest weather. I make no doubt but in the spring, I shall obtain from them as good sprouts as Brussels or cabbages, with the further advantage of having the roots for my cattle, when, I will communicate to you my remarks, should you think it proper.

I am fully of opinion, that to succeed, the method would be to prepare early in the spring, a piece of ground highly manured, for the best purpose of raising the plants, to be sown broad cast, from the middle of June to 1st July, according to season, to be transplanted on ridges thrown up about $3\frac{1}{2}$ feet distant, and manured first, where the plant is to grow.

From experiments on my floor land, I am satisfied that high ground is preferable to low, and manure fresh from the stable to old—the ridges I have manured with fresh stable manure hauled from town, yielded the largest roots, the difference was striking; it is necessary to remark that many have been deceived by not procuring genuine seed; several of my neighbours found to their cost, that the seed they had bought was nothing more than turnip seed of the worst kind, and would not have been undeceived had they not seen my field. I, as well as many of my acquaintance, sowed largely of turnips, we bought the seed in town, expecting to out-do our neighbours with our fine Norfolk turnip seed, (just imported) but instead of eclipsing them, we found our turnips resembled in shape and size parsnips more than any thing else. Let all therefore, be particular in getting genuine seed of Ruta Baga; as to myself, I intend this year to put in ten acres, as I am fully convinced there is nothing easier raised or better for stock than

RUTA BAGA.

At a Town meeting held at the city of Pittsburgh agreeable to public notice, John Darragh, Esq. was called to the chair, and Matthew B. Lowrie, Esq. appointed Secretary.—Messrs. Henry Doane, George Sutton, and Robert Patterson, the committee appointed at a former meeting to furnish a condensed view of the present state of our Manufactures, contrasted with what they were in 1815, submitted the following statement.

A STATEMENT.

Of the comparative extent and value of the Manufactories of Pittsburgh and vicinity in the years 1815 and 1819—viz.

MANUFACTORIES.	Number of hands employed in 1815.	Value of the Manufactures in 1815.	Number of hands employed in 1819.	Value of the Manufactures in 1819.
Steam Engine Factories,	290	\$300,000	24	\$40,000
Foundaries and Iron Castings,	163	190,000	40	80,000
Iron and Nail Factories,	65	241,200	30	40,500
Blacksmiths and Whitesmiths,	90	90,000	39	40,000
Glass Manufactories and Glass Cutting,*	169	235,000	40	35,100
Hat Manufactories,	69	122,000	30	50,200
Woollen Factories and Hosiery,	63	48,500	16	16,150
Saddlers,	68	90,100	28	36,000
Breweries,	28	91,050	18	35,000
White and Red Lead Factories,	25	110,000	9	35,000
Tobaccoists,	48	45,850	27	27,550
Brass Foundries,	35	49,633	12	11,700
Ropemaking,	18	30,000	15	15,000
Saddletree Factories,	28	29,000	12	14,000
Tin Factories and Coppersmiths,	100	200,000	40	45,000
Chair Factories and Cabinet Making,	66	99,000	40	24,500
Silverplating,	30	32,450	8	8,500
Cotton Factories,	42	42,000	0	0
Plane Making,	20	25,000	10	9,500
Wire Weaving,	10	12,000	7	6,000
Wire Making,	8	21,000	0	0
Button Making,	6	6,250	3	2,100
Umbrella Making,	2	1,600	0	0
Piano Forte Making,	4	2,000	1	700
Tailors,	66	65,000	29	28,500
Shoemakers,	140	125,500	50	49,000
Patent Balances, Scale and Steelyards,	10	10,000	4	3,500
Yellow Queensware,	9	10,000	0	0
Pipe Making,	3	1,800	0	0
Linen Factory,	20	25,000	0	0
Wagon Making and Wheel wrights,	40	40,000	20	18,500
Paper Making,	50	40,000	30	30,000
Auger Makers, Bellows Makers, Brush Makers, Cotton Spinners, Weavers, Curriers, Cutlers, Locksmiths, Spinning Machine Makers, Tanners, Tallow Chandlers, Pattern Makers, Silversmiths, Goldsmiths, and Soap Boilers.	175	195,000	90	130,000
	1960	\$2,617,833	672	\$832,000

* On Flint Glass alone the reduction has been \$75,000.

(Signed)

GEORGE SUTTON,
HENRY DOANE,
ROB. PATTERSON, } Committee,

Pittsburgh, December 24th, 1819.

The above report being read and accepted, the following resolutions were unanimously passed. While we compare the present languishing state of our Manufactures with what they have lately been, we regret to find, on an examination of the facts here exhibited; that in the last four years, a decrease of more than two-thirds has actually taken place.

Therefore Resolved, That one hundred copies of the foregoing report, together with the proceedings of this meeting, be printed in hand-bills: and that one copy be sent to each of our representatives in Congress, and our state Legislature, with an earnest request, that they will zealously endeavour to have such measures adopted, as will best secure, encourage and protect our Domestic Manufactures.

Resolved, That the editors of newspapers in this city, be requested to publish this statement, that these facts being known to the community at large, may have some tendency to cause them to abandon the use of foreign goods of every kind, which, we must consider, as a principal cause of our present embarrassments.

Resolved, That the gentlemen who furnished the report, are entitled to the thanks of the community, for the satisfactory manner in which they have discharged the duty assigned them.

JOHN DARRAGH, Chairman.

ATTEST. MATTHEW B. LOWRIE, Secretary.
December 30th, 1819.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
"Agricolos." . . . VIRG.

VOL. 1.

BALTIMORE, FRIDAY, FEBRUARY 4, 1820.

NUM. 45

AGRICULTURAL.

REPORT

OF THE CURATORS OF THE
Agricultural Society
OF SOUTH CAROLINA.

At their Anniversary meeting, held in Columbia, in December, 1819.

TOGETHER WITH A LIST OF THE OFFICERS
FOR THE ENSUING YEAR.

Gentlemen,

The transactions of the South Carolina Agricultural Society, since the last annual meeting, have not been as interesting and extensive as the Curators might have wished. A variety of unfavorable circumstances, have impeded, in a great degree, the progress of business. To enumerate them all is perhaps unnecessary.

The sixth article of the constitution says, that the board of managers shall meet on the last Saturday of every month, &c. Some difficulty has most generally occurred on that day that prevented the meeting—at one time, the gentlemen of the bar belonging to the board were obliged to attend court—at another time, a muster would throw an obstacle in the way of several others; and it was always very troublesome for such of the members of the board as live in the country, to come on Saturday, when some of them, being directors of the bank, had been in Columbia on the preceding day. The Curators, in this report, made in compliance to the 12th article of the constitution, beg leave to point out occasionally, such obstacles to the prosecution of their business, as may arise from each particular subject.

A number of grass and other seeds that had been collected during the preceding year, have been distributed according to the wishes of the Society, to such persons as were thought most likely to make experiments on them. Those persons were requested to make their reports, at any time, to the Curators or at this meeting. As no report has been made as yet, it is presumable that some will be made by the individuals directly to the society. It appears to us more desirable, however, that hereafter, such reports be directed to be made to the Curators at such an early period as to allow them to be embodied with theirs.

The small experiment made last year on Guinea grass, an account of which, was laid before you, induced the Curators to take some steps to procure seed in such quantities as could be extensively distributed. With this view they have written to a gentleman whose frequent commu-

mication with the island of Cuba made it probable he could get it for us in large quantities, but we have had no answer to our letter, several gentlemen from Charleston however, particularly the Hon. Judge John Drayton and Henry Laurens, Esq. have presented and forwarded to us a sufficient quantity of seed of this invaluable grass so as to enable us to multiply the experiments. The seed has been distributed, and although we have no account from any one, of his success, we have reason to believe that none but two or three had a favourable report to make.

It will be recollected that the small experiment made the last year, by one of our board, was sufficiently satisfactory to induce the continuation of it. One of the parts of the Guinea plant, that had been divided into twenty-eight parts, was planted at the time in a small tub, with a view to give it during the following winter the protection of a green-house, and the grass that had been suffered to remain uncut till frost, was covered with earth and pine leaves, so as to secure it from the cold of the winter. The former being confined in so small a space did not thrive during the summer, and when it was carried to the green house, was not very promising. With some care during the winter it was just kept alive, and in the spring when it was thought proper to divide and plant it in the open ground, it looked very badly. That which had been covered with pine leaves appeared also very unpromising. Of the latter, however, four good plants were made, and of the former, thirty-eight, including pieces of the stock which appeared in a vegetating state. They were planted in two rows, in a bed four feet wide, a little better than two feet apart in the rows. This was certainly closer than it should have been, for the ground was far from being rich, and it was supposed this distance might answer. This removal and transplantation from the house took place on the 15th of April, on which day also was sowed some of the seed sent by Mr. Laurens. Some of another parcel had been sowed before, on the fourth of March, but had not come up. The transplanted grass grew very well, and some of the seed came up in due time. Some of the pieces of the stock, however, did not grow, but the rest grew so well as not to be distinguishable from the roots on the 20th of May. This day offsets were taken from some of the most luxuriant plants, in order to fill up the bed, and on the 9th of July, having had a fine shower, some of the grass that had been sown on the 15th of April, was divided and transplanted. A number of the larger plants being selected to be preserved for seed, on that day, 9th of July, the grass of thirty-two of the other plants was cut and found to weigh, green, 32 lbs. On the 31st the hay made of the 32 lbs. green grass, was found to weigh 10 lbs. On the same day the grass of the same thirty-two plants was cut for the second time, and found to weigh 60 lbs. and when made into hay, 18 lbs. On the

25th of August the same thirty two plants were cut for the third time and weighed 98 lbs. which when dry, only weighed 22lbs. On the 15th of September, the same thirty-two plants were cut and weighed 36 lbs. and when dry, 13 lbs. Circumstances prevented a fifth cutting before a frost, but from its appearance it would have weighed at least as much as the preceding; so that we may allow it the same, viz.—36 lbs. green and 13 lbs. when dry. Here is then, in the small space of thirty-four feet long by four feet wide, of a very indifferent soil, 262 lbs. of green grass, which, when made into very fine hay, weighed 76 lbs. which would make per acre upwards of 40 tons of green grass, and upwards of 11 tons of hay. This is a very great crop, and when it is recollected that the land in which this grew is of a very inferior quality, it is fair to conclude that in a better soil, and in a favourable season, the crop would be much greater. It is true that the cultivation of this grass is attended with considerable trouble at first, but when the product is taken into consideration, that trouble sinks into insignificance; and, if further experiments should fully prove that each joint of the stock, like that of the sugar cane, is susceptible of producing a vigorous plant, and this is almost reduced to a certainty, a much greater product must be expected, for it will be recollected that in the experiment above selected, the best and most vigorous plants were kept for seed, which they have produced in abundance. Some easy mode will then be found to preserve a few roots and a quantity of the stock till spring, and then planted on a large scale without depending on the seed. We have very little doubt but a piece of good and suitable land thus planted, would yield much more than that in the above experiment. When we consider the immense advantages that would result from so abundant a source of provender for our horses and cattle, we cannot help expressing a hope, that something will be done to promote further experiments.

On the 7th of January last, the honourable Judge Desaussure presented to the Curators, a considerable quantity of spring wheat which he had procured in New Jersey, and which was said to be very productive. It has been duly distributed; and although no report has been made to us of its success, we have reason to believe that the experiments have been satisfactory.

A letter was also received about the same time from John Haslet, Esq. of Charleston, accompanying a small quantity of very fine Spanish wheat, which has also been distributed, and it is to be hoped that the reports concerning it will also be satisfactory.

In the course of the winter three hundred grains of Egyptian barley, weighing four drams, were given to one of our board, who planted them in his garden, the product was eight pounds four

ounce. Its growth was very rapid, and it suffered very much by the spring drought.

A small quantity of Oneida wheat, said to be a native of our country, in the vicinity of the lakes, was also sent by the honourable judge William Johnson. No report has been given in, but we have reason to believe that it did not succeed.

About the beginning of January we were induced to write to George G. Barrell, Esq. American consul at Malaga, in Spain, the following letter :

Columbia, South Carolina, Jan. 7. 1819.

SIR,

An Agricultural Society has lately been organized in this place under the name of the South Carolina Agricultural Society. It has for its objects to improve agriculture in every part of the state ; to introduce from foreign countries such articles, the cultivation of which is likely to be advantageous to the state ; to bring into use such implements of husbandry as may be necessary to facilitate the attainment of those great objects we have in view ; to procure improved breeds of cattle and other domestic animals, &c. &c. We have taken the liberty of requesting your assistance, encouraged by an extract of a letter from you, to a member of the Albany County Agricultural Society, making to that Society an offer of your services. The extract alluded to begins thus ; "As an American, I am happy to observe enlightened men forming societies in various parts of the United States, to promote the great interests of Agriculture. I shall transmit to you," &c. &c. The freedom with which we apply to you makes an apology necessary, but the liberal and enlightened views you entertain of the importance of such an association as this, in whose name we write, show that we need say but little on this subject. Begging, therefore, that our motives may plead our excuse, we venture on the expression of our wishes.

It appears to us that the similarity of climates between the country in which you reside and the state of South Carolina, promises success to such plants which you might judge proper to send us. We therefore beg you will, by a careful person, forward to us seeds or plants which you may suppose we have not, but might cultivate with advantage. There will be in this some difficulty, at which we grieve, and that is, in repaying you for any expense you may be at in complying with our request. We beg you will point out the means by which we may do this, either by transmitting the amount to any city in the United States, or to yourself at Malaga. As we have reason to hope that the grape vine might be cultivated here for the purpose of making wine, we would request particularly that you would send us a quantity of cuttings or rooted plants of the different kinds of vines cultivated in Spain. We beg leave, however, to notice that the soil on which we contemplate making our experiments, is a light sandy soil. A great part of our state is very sandy, and if we could introduce successfully the cultivation of the vine, the advantages would be invaluable, not only to our state, but also to the United States. Were we not afraid of trespassing too much upon your obligingness, we would also request that, if it be convenient, you would send us a short account of the manner of cultivating the vine at Malaga.

In the extract of your letter alluded to above, you mention a breed of hogs, that it would be very desirable for us to have here. You say of them, that "they are seen in droves of hundreds, all over Spain. They subsist in summer on weeds, and with a little corn in autumn, become astonishingly fat, and make the most delicious pork in the world." We would really be much obliged to you, if you would have the goodness to send us at least two pair of them. These or any thing else which your judgment might point out as proper to be sent, would be thankfully received and entitle you to our gratitude. We shall be happy in returning you in any manner you may require. The funds of our society are yet small, we

must therefore act with economy ; but you may be assured of our utmost punctuality.

We are, sir, with great respect,
Your obedient servants,

(Signed)

N. HERBEMONT,
J. P. TAYLOR,
JAMES DAVIS,
Z. RUDOLPH,
J. M. HOWELL,

Curators of the South Carolina Agricultural Society in Columbia.

N. B. The packages to be sent to Charleston, to the care of Henry Bryce & Co. directed to the Curators of the Agricultural Society, Columbia.

P. S. If you send your draft on Messrs. H. Bryce & Co. it will surely be honoured at sight.

The above letter, the following answer was received on the 2d of November.

N. Herbemont, J. P. Taylor, James Davis, Z. Rudolph, J. M. Howell, Esquires, Columbia, South Carolina.

MALAGA, 17th August, 1819.

Gentlemen,

The duplicate of your much esteemed favour of the 7th of January last, never reached me until three days past, (the original never having made its appearance,) which will sufficiently account to you for my silence. I regret the circumstance much, because, had I received the letter before, you certainly should have been in the possession of all you require, and I fear you may think carelessness or inattention on my part the cause. However I seize the present moment to beg you will always remain assured of the pleasure I shall derive from an opportunity of furthering your views, and of the great satisfaction it will afford me to aid a society whose efforts are directed to the improvement of the most rational and I think, the noblest pursuits of human beings. You may rest assured, the first vessel going from this to any of the southern ports, shall convey the seeds, plants, &c. &c. which you name, accompanied with such remarks as may serve to give you an idea of their cultivation in this country, and consequently leaving you to make your own deductions. I beg you will make yourselves perfectly easy on account of the charges, &c. It will be sufficiently pleasing to me to be found in any degree serviceable to any body of men from any section of the union of our happy country, without dreaming of any other reward, which I could not on any consideration think of receiving. I have some reason to expect a vessel will call here from Savannah in the course of three weeks, for a cargo of fruit, and by her I shall transmit whatever I may deem worthy your attention.

Requesting you to excuse the brevity of this, and to be persuaded of my esteem and best wishes for your success and happiness, I am gentlemen very respectfully your friend and most obedient servant,

(Signed) GEORGE G. BARRELL.

It is, gentlemen, very gratifying, and at the same time very encouraging to find such liberal assistance in a person totally a stranger to us, and it does, in our opinion, our general government great credit to send to foreign countries men of such enlightened views, and liberal principles. They are surely calculated to raise our reputation abroad, when at the same time, their exertions must be of infinite advantage to our growing country.

Several letters were received from Monsieur Barre, in which he expresses the fullest hopes of success in his vineyard, and in the last he speaks confidently of his making some wine this fall.

To the South Carolina Agricultural Society, at their annual meeting, on the 7th of December, 1819, in Columbia.

GENTLEMEN,

I have promised to inform you of the quality of the wine, the growth of my vineyard, near Landsford, on the Catawba, and on the light lands of this country. It is with much pleasure, gentlemen, that I fulfil this day a promise which becomes every day dearer to my heart, when I see that my vines succeed well and produce a liquor above my anticipation.

I have made this year a few gallons of wine, as much as I could have expected from the season and the age of my vines. Instead of a red wine, like that of Bordeaux, which I expected to obtain of plants brought from that country, I have been very agreeably surprised to find that my wine resembles much, by its colour, that of Madeira ; it has a good body, and I should not be at all surprised, if, when it is two or three years old, it were as much valued as that produced in Madeira, which is so much prized by persons of taste.

Accept, gentlemen, the assurance of my profound respect,

(Signed)

JOHN BARRE.

*Vineyard of Bellaire, on the Catawba,
November 26, 1819.*

An experiment on the cultivation of the grape by one of our board was begun last spring, by planting, (about 1550) cuttings of divers species of vines, and some of these (about 100) were grafted in the roots of the wild vines and transplanted. Many of the cuttings and some of the grafts have failed ; but the rest have taken well and are very promising. This experiment is carried on in our Sand Hills, and if it should be crowned with success, as there is some reason to hope, it will prove of invaluable advantage in many points of view.

The Heligoland beans were received too late to be planted at the season we conceived the most suitable. They were, however, distributed ; but we have not had any account of their having been cultivated with success. They have generally yielded very little more than the seed. This failure is probably to be attributed to their having been planted too late, and in a soil not suitable. It is to be hoped that further experiments will be attended with more advantage.

We have received two pamphlets in the French language, from one of our honorary members, Monsieur F. L'Herminier, who has, since our last annual meeting, removed from Charleston to Guadeloupe. A translation of his letter accompanying the pamphlets here follows ;

Basseterre, (Guadeloupe), July 6, 1819.

Mr. Herbemont,

My dear sir, friend, and very dear correspondent, I have but a moment to recal to your remembrance my friendship and regard for you, and for our good, worthy and excellent Carolinians, and to inform you that I am sending to

Philadelphia a box of seeds from Europe, (153 species) which is to be divided between the Botanic garden, of that city and our society. It is to the care of Monsieur Le Sueur, a painter in natural history, as modest as he is skilful, that I address the whole. Be so obliging when you receive this feeble proof of my remembrance, to say, and repeat to our society, that I am very far from forgetting them, and that in the new career I have entered, I shall avail myself of every opportunity to prove that I am still an American in heart. You will oblige me if you can send us here seeds and fruits of all kinds for our experimental garden. Send us useful things, grasses, &c. I am collecting, to be sent to you by the first opportunity, seed of the Guinea grass, (*Panicum Jumentorum*), &c. I am afraid of losing this opportunity, and I conclude by assuring you of the sentiments of esteem, consideration and friendship with which I am for life your servant,

(Signed)

F. L'HERMINIER.

The seeds mentioned in this letter have not been received, but Monsieur Le Sueur, to whose care they were left in Philadelphia, has been written to and we hope to hear from him shortly.

The cotton crops have generally been very good; but the disease of the cotton, plant called the rot has made very alarming progress, and some planters have suffered very materially by it this season. It is much to be regretted that experiments have not been made to ascertain fully the cause of so disastrous a disease, and the best mode of preventing or at least diminishing it—or if they have been made, that they have not been communicated to our board, by which it might be more readily imparted, to all interested.

With regard to the cause of this disease, many conjectures have been thrown out, none of which however appear to be very satisfactory. Amongst these we have heard of one which we think may be deserving of some attention. It has been thought that it may depend on too luxuriant a state of vigour of the plant, and is instead of a local disease of the pod, a constitutional disease of the whole plant. On this supposition it is recommended to continue the ploughing or hoeing, so as to cut the roots and keep under the vigour of the plant until a late period, when the danger of the rot is pretty well passed by. The above opinion, which has been communicated to us by a very intelligent and observing planter, is further supported by the experience of a large crop about thirty miles below Columbia, which had been very highly manured, and suffered by the rot more than any other plantation we have heard of this year. It has also been observed that in a cotton field a number of plants are found of a larger growth than the rest. Every part of the plant is larger and of course it is more productive, these plants, we are informed, are very easily distinguished from the others by the different colour of the stock, and it is generally found that these plants are not affected by the rot. Would it not be well worth the attention of planters to select the seed from these plants for the following crop, and if but a small quantity of it could be procured, it ought to be planted by itself, by which means an interesting experiment would be made. It appears to us that a premium ought to be offered for this object.

We have received a letter from John S. Beltinger, Esq. dated Pine Forest, Barnwell district, February 28, 1819, containing an account of two experiments which were made last year, on the culture of cotton. They are as follows:

1st. Made to ascertain the proper time for topping cotton.

I topped on the 4th of August, and also on the 3d of September last. To test this trial the same quantity of cotton was not topped, and the result was as follows—the cotton topped on the 4th of August produced at the rate 312 lbs. of seed cotton per acre. That topped on the 3d Sep. 498 lbs. and the cotton not topped 445 lbs. per acre. The frost of the 20th April having destroyed the first planting; this cotton was planted on the 29th of April, and killed by the frost of the 5th of October.

2d. Three half acres of cotton were planted in hills, 30 inches square. In No. 1 one stock of cotton was left in each hill. In No. 2 two stocks, and in No. 3 three stocks were left. The result was as follows: No. 1 produced 231 lbs. of seed cotton, and each of the others, 163 lbs. of seed cotton. Green seed cotton was planted in this field, and in the former experiment N. Orleans seed.

A change of seed, or rather seed procured from a distant country, offering fair prospects of benefit to the cotton planter in a variety of ways, the board of managers have directed that about 100 lbs. of Carthagena seed cotton be procured of a gentleman in Baltimore, who has lately imported a quantity of it, which is said to be very fine. The curators have consequently taken measures to obtain it.

On perusing the second annual report of the American Society for colonizing the free people of colour in the U. States, it was observed that cotton is found growing wild in various parts of Africa. It being presumable that superior varieties of cotton might be procured by planting seed obtained from these wild plants, or from such as may have been raised from them in the country where it is indigenous, we are taking measures to procure a small quantity of it.

We also beg leave to recommend that premiums be offered for the discovery of a quarry of gypsum; for the largest quantity of corn on a given quantity of highland, and also for such other objects as the society may think most conducive to the interests of agriculture in this state. The premiums ought to be in our opinion, not pecuniary, but such as the successful candidate might exhibit with that honest pride, that is itself a considerable reward of merit. Such as a silver cup or other pieces of plate with a suitable inscription. Or the premium might be appropriated to the profession of farming: such as a plough or other instrument of agriculture, of excellent workmanship, and of the most improved construction.

The agricultural society of North Carolina sent us a circular letter, dated June 20th, 1819, giving an account of their formation, &c. and soliciting a mutual co-operation of efforts, which ought to distinguish societies labouring to promote common objects of great and general utility.

The board of curators, in compliance with a resolve of the board of managers, have subscribed

for two copies of the American Farmer, published in Baltimore by John S. Skinner, Esq. It is a very excellent publication, and in our opinion, deserves the most extensive circulation. One of the copies was requested to be left in the hands of the editor, to be sent us bound at the end of the year. The other is to be sent as it is published. Farmers and planters will find it a very abundant source of useful information.

We would wish with all due deference to recommend that the society, at its annual meeting would take such measures as may induce our state legislature to afford us that countenance and assistance, without which, nothing important can be executed. The state of our funds is such that we cannot even hire apartments for our monthly and annual meetings; and to deposit our papers, books, &c. without trespassing upon that which is to be applied to the most direct and immediate objects of the society. The want also of a farm is seriously felt. We cannot perhaps show the expediency of legislative aid better than by borrowing the language of a pamphlet entitled "An examination into the expediency of establishing a Board of Agriculture in the state of New York," &c. Only change the name of New York, that state so eminent for public spirit and noble enterprise, for that of South Carolina, which is equally disposed to promote useful institutions and the reasoning will apply with redoubled force.

"A new era has commenced in our agricultural history. The present year presents us with improvements that give a satisfactory pledge of the vast acquisitions which await us. The first states as well as the first statesmen in our union, are now lending their efforts and their talents to a source of national power and greatness, that will repay their exertions with a rich and lasting tribute. The light of Europe is before us. The sun of science illumines our paths. The wonderful advances in chemistry, mineralogy, geology, and botany, which mark the present period with lustre and glory, cannot fail of leading to investigations and experiments in the art of agriculture, that shall result in a magnificent acquisition to the age in which we live, and a benefit of the deepest moment to posterity. Such prospects demand the exultations of a great people, sensible of their advantages, their interests, and their future fame.

"Adopting the theory as correct, that the richness of the soil bears a proportion to the decay of luxuriant vegetation on its surface, and the abundant fertility of our state is palpably evident. It has been enriched by the growth and decay of vegetable substances for centuries, and inexhausted by the hand of improvement. Our state also abounds in those mineral treasures which are calculated to increase the fruitfulness and enhance the value of the soil. The important article of gypsum, which has for years been imported into our state in immense quantities, from the British dominions, has been discovered in the heart of our western district, in inexhaustible quantities. On what then, does the science of agriculture rest? Is it indeed an humble art, confined to a sphere that is depressed and contracted, and only to be improved by those who turn the glebe, scatter the seed, and reap the harvest? Does not the science of agriculture, even in the brief and

partial view which we have taken of it, rest its foundation on a knowledge of natural philosophy, so far as to decide on the nature and changes of climate; a knowledge of mineralogy botany, geology, and chemistry, and of natural history, to the latitude that the rearing and nourishment of live stock is involved; and may we not even include the mechanical arts, inasmuch as they are connected with labour-saving implement of husbandry and other external improvements? And will it be pretended by the considerate, the liberal, and the reflecting portion of the community, that agriculture, whose successful encouragement involves branches of knowledge so deep and intricate, should be left to make its own progress to perfection, as time, accident and ignorance shall dictate? Shall the fundamental and vital art that sustains all others, be left the deformed victim of habit, penury and prejudice? We believe, nay, we know, that there is a proud and enterprising spirit in our community, and among our farming interest too, that brands with indelible marks of denunciation, such a supposition as this. Our agriculture must and will receive the solid and growing patronage of an intelligent people and a wise and energetic government. To say that agriculture does not need the extraneous aids which science can extend—to maintain that it wants not the light of those experiments and suggestions, which are the invaluable offspring of great men's researches and reflections, is paying a degrading tribute to the triumph of ignorance, and weaving garlands around the brows of stupidity. It is discarding common sense, and extinguishing the light of truth, when such acts blast the interests of communities and states, and cast a disgraceful blot on the lustre of the age. 'Leave the farmers to themselves,' is a common remark, and it is a remark that is characteristic of a cold heart, a penurious spirit and a weak mind. It would as well apply to all the occupations that engross the labours of mankind, as to the art of tillage. To whom are we indebted for those philosophical improvements which are applicable to domestic purposes, and extend to an immeasurable degree the blessings of existence? Let us inquire then how other nations have rapidly progressed in agricultural improvements, and by what means the state of *South Carolina* must advance this fundamental branch of industry, this true and unfailing support of her grandeur. In France, in Italy, Germany, Sweden, Denmark, England, and other European countries, the art of tillage has been carried to a great height of perfection. This has been effected by a systematic course of measures, commenced with liberality, and prosecuted with unceasing energy and perseverance. Gentlemen, we said that the state of N. York was eminent for her public spirit and noble enterprise; we repeat it, and bring for proof the following paragraph from the same pamphlet, and this will be our conclusion, begging that if we have exceeded our limits in this report, the importance of the subject, and the necessity of pressing it with force, will plead our excuse. The writer goes on:

"It becomes every state and every government to act right and to act with consistency. New York has for years past pursued a noble and liberal course of policy, in relation to public improvements. When we look at what we have

done, when we look at what we ought to do, and at our capacity for doing it, hesitation appears degrading and reproachful. Look back and see the magnitude of our appropriations for useful purposes beyond the ordinary sphere of legislation. We have appropriated a school fund for the diffusion of elementary education, whose moneys invested in stock, the value of land, and other property attached to it, amount to 6,675,129 dollars. We have appropriated 60,000 for the promotion of medical science. We have given 74,263 dollars 75 cents for the encouragement of botany. For the support of colleges we have paid 750,000 dollars, and for academies 100,000 dollars. Here we find an appropriation of more than seven millions and a half, within the last few years, for the encouragement of education and science. For military expenses we have appropriated nearly 300,000 dollars, and for the support of criminal jurisprudence 976,157 dollars, 47 cents, making between nine and ten millions in the whole, for these purposes. In this partial view of our liberality, we say nothing of the appropriations for more than sixteen hundred miles of turnpike roads, opened by the state government, in conjunction with individuals and corporations, and of the thirty five or forty bridges, which for the most part have been erected during the last ten years, in the same manner. It is with pride and satisfaction that we recall to our mind all these facts, so honourable to the character of the state. What is now asked at the board of the treasury? We ask the guardians of our public welfare, to extend the basis of our wealth and power as a state, by a public exercise of that authority with which they are clothed by the people. Commerce, manufactures, and the arts have drawn their vital nutriment from agriculture. She has enabled our ships to spread their canvass and plough the ocean. She has fed the artisan, and given him the materials of his occupation. She has erected temples for the arts and sciences, and opened her treasures to give them pecuniary aid. She has covered the borders of our waters with splendid cities, towns and villages; she has sustained our treasury, and sent armies into the field, to fight the battles of our country, and reap the laurels of victory and renown; and through all this, while fifty years have rolled away with a prosperity unknown in the history of any ancient or modern people beyond the bosom of our own republic; she has never raised her voice, but as a benefactress. She now speaks in an hour of unclouded prosperity. She demands not that other professions and other pursuits should contribute to her benefit; but she asks their permission to retain an humble portion of her own munificent contributions to the resources of our treasury, for her own improvement that she may do still more for others. It is time that the cultivators of the soil should be heard. While law and physic, while commerce and manufactures have filled so large a space in the public eye, we have too far forgotten the farmers in our legislative bounty, the brave and hardy yeomanry who in peace or in war, in prosperity or misfortune, have borne the state upon their shoulders, and opened their breasts to her defence and their purses to her credit. Is agriculture of less consequence than other subjects of legislation?—From this branch of industry shall the legislature turn with a cold heart, a penurious spirit, and a

contemptuous eye? Shall the agricultural portion of our great community be turned away from the halls of public deliberation with scorn and derision? We choose legislators and rulers to protect and watch over our public interests, and there is too much wisdom, too much patriotism, and too much liberality in the executive and in the legislature to treat the encouragement of agriculture in any other manner than its vast importance deserves."

N. HERBEMONT, Chairman.

Signed by order of the board of Curators
Officers for the ensuing year.

President. Gen. William R. Davie.

Vice Presidents. Col. Francis K. Huger, Maj.

T. Taylor, Col. John J. Chappel,

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M. Howell, Esq.

To the editor of the American Farmer.

The little controversy which has lately appeared in the *American Farmer*, between, "A Subscriber" and "A Friend," about the virtues of the Ruta Baga or Swedish turnip, in the course of which the relative value of potatoes was mentioned, reminded me of an intimation long since given, that I might make to you a communication on the latter of those roots. I now submit to your disposal some observations on both; and add a few on the Mangel Wurtzel, or greater beat, and on carrots.

Novelties in agriculture as well as in other things, if fair in appearance, and confidently recommended by persons entitled to general credit, are often implicitly adopted and zealously pursued, until sober experience shall have detected the fallacy. The encomiums passed on the Ruta Baga by that extraordinary man William Cobbett, and his reprobation of potatoes, are perhaps equally extravagant. If there be truth in the analysis of these two roots, by Sir Humphrey Davy, the same weight of potatoes contains more than three times the quantity of nutritious matter that is found in the Ruta Baga.—Yet if both be fed in their raw state, to domestic animals, the latter may be found the better root.—For human food, raw potatoes would be intolerable, while the Ruta Baga is not unpalatable. Yet if both be equally well cooked, few can hesitate to give a decided preference to the potato, as well in regard to taste as nutrition. The potato, if a good and mealy kind, will well supply the place of bread. Its value in this respect, is satisfactorily ascertained in the British Isles, more especially in Ireland, where the practical judgment of that class of its population which makes the greatest use of potatoes, very well accords with Mr. Davy's analysis of grains and roots. He states that of a 1000 parts of wheat, 955 are nutritive; and of potatoes 200 to 260 parts.—Now in a report to the English board of Agriculture, in the year 1795 by an intelligent Irish Gentleman, Samuel Hayes, Esq. it is stated "That the nourishment from one pound of good household wheat bread, is equal to five pounds of the best sort of potatoes." That this was first suggested to the "ingenious gentleman" Mr. Broughall, who gave the information to Mr. Hayes, "from a memoir on the subject by Mr. Parmentier, a French chymist; and has since been supported by many corroborating circumstances. Mr. Broughall having observed, that whatever weight the shilling household loaf consists of in Dublin, five times that weight of potatoes may have been bought at that time for the same sum; and if by any cause the price of potatoes should rise

bove that proportion with respect to bread, the lower class then decline the purchase of potatoes; experience having taught them the cheapest mode of support." Mr. Hayes adds, "That as in the country parts of Ireland, the fowls, pigs and dogs come in for their share, (of potatoes) there is certainly more consumed than five times the quantity of bread, which might be necessary; but it is far from thrown away; the family by this means eat one but the soundest and most palatable potatoes, while the refuse supply equally the wants of the other animals. We must also add, that another cause of increased consumption arises from the universal practice of allowing the little children of the house to roast potatoes for their own use, as often as they please, in the turf or wood ashes. As you ride a cottage, you frequently see a group of children run to the door, each one holding in his hand a roasted potato; and to this facility of procuring plenty of wholesome sustenance, at this stage of life, may be attributed the robust health of our peasantry, and the great population of our country." But according to Mr. Cobbett, the potato, when analysed, contains chiefly dirt, water and straw; and seeing at Ruta Baga, according to Sir H. Davy's analysis, contains only 64 nutritive parts (while the potato contains 200 to 260) in a 1000, of what do the remaining 936 parts consist? Doubtless as truly as a potato, of dirt, water and straw.

The common opinion of the injurious if not poisonous quality of the juice of the potato, is probably correct; and will account for the often stated fact, that raw potatoes will barely keep swine alive; while the experience of many farmers will inconspicuously prove, that when boiled [the water in which they are boiled being thrown away] potatoes will greatly contribute to the growth and fattening of hogs. Even in their raw state, they are unquestionably useful in the fattening of cattle, and for increasing the milk of cows, while fed on hay or other dry fodder in winter. Probably, raw potatoes while full of juice, if useless or injurious to swine may be a salutary food for cattle; certain it is, that the latter eat them voraciously, which is not the case with swine. Yet even swine will not only live and thrive upon them, when having been spread and dried until shrivelled, they are kept till after midsummer of the year succeeding their growth. The juice of the root of one species of the Cassada, is poisonous; but this being expressed, wholesome food, much used in the West Indies, is then made from the roots.

Some sorts of potatoes must yield more nourishment than others; and hence the difference in the results of Sir H. Davy's experiments in analysing them. The mealy and well flavoured potato might be that superiority over the watery and ill flavoured. The same remarks will apply to others. Much also, as to their quantity of nutritive matter, may depend on the nature of the soil where the roots of the same kind are raised. I once pulled a turnip of the common kind, weighing two pounds, from the deep rich soil at the foot of a hill, and another weighing only one pound from a dry, gravelly loam; both were boiled and mashed; and even the watery juice of each was pressed out, I could not determine of which there was the greatest quantity; both were well flavoured.

The potatoes of Nova Scotia and the remoter parts of the District of Maine, (like those from England and Ireland) are vastly superior to those generally raised in Massachusetts and the states still further west. It is the common opinion that potatoes require a dry (and consequently a warm) soil. This is so in the United States in general, is doubtless an error in Ireland and the west of England are moist and wet countries; and from them have usually come the best potatoes. In all but the most northern portions of the United States, it would seem advisable to choose moist and cool grounds, with northern aspects, for raising potatoes, at least for the time being. Anderson, if I mistake not, some where mentions a very dry summer in Great Britain, when the

potato crops were small in quantity, and the roots of very ordinary quality. The next summer was amply moist, and then the potatoes were abundant in quantity and of excellent quality.

My own observation and experience have satisfied me, that, generally speaking, potatoes improve in their quality when carried from a warmer to a colder climate; and just the reverse happens when carried from one colder to a warmer. In the latter case, the produce of even the first year has generally borne hardly a resemblance to those planted; these were mealy and finely flavoured; their produce moist and of indifferent flavour. The best early potatoes I ever had, were produced from a handful of small ones brought from Maryland. It was in the third year that they attained their greatest excellence. They were afterwards confounded with others and lost, for want of my personal attention.

We have in Massachusetts a very productive potato, said to have been brought from the river Plate. It is a long red potato, which I have cultivated for a dozen years, I think it has been constantly improving in quality; and has now become a good potato for the table especially in the spring.

Of the same sorts of potatoes, individual roots are greatly superior to others. Perhaps the proportion of the latter may be increased, (if thereby an entire crop cannot be obtained,) in the following way; select the fairest roots of a large size, and plant them entire in hills, one potato in a hill. When the produce is ripe, boil two or three from each hill, carefully marking from what hills they were respectively taken, and save for seed the residue in the hills giving the best samples. This process a few times repeated, may furnish potatoes of a uniformly good quality.

But to return to the Ruta Baga. Your correspondent "A Friend," refers the other "A subscriber," to Mr. Barney's application of this root, in feeding his two fat oxen, as stated in the first number of the American Farmer. But what is found there? That those extraordinary beeves were fattened on that root? Just the reverse. It was Indian corn meal which improved and finished them so highly, and the Ruta Baga was used rather as a condiment, to give the oxen a better appetite for the meal. They were two years in fattening. The first winter they ate equal quantities of Indian meal and of the Ruta Baga; but as the latter contains (according to Sir H. D.) only 64 nutritive parts in a 1000, while Indian corn probably contains at least 900,* the meal contributed fourteen times as much nourishment as the Ruta Baga. In the second winter the difference was still greater; the ox Columbus then eating daily from 12 to 16 quarts of meal, and only three to twelve quarts of Ruta Baga. And you mention that Mr. Barney "gives the preference to Indian meal over every other species of food for fattening either sheep or cattle, and gives it in its dry unsalted state." It has ever been the practice of farmers in New England, in stall-feeding cattle on hay and Indian meal, to give the latter in the same form. From American farmers, probably, Mr. Barney an Englishman, learned that manner of using Indian meal.

You say also, that "Mr. Barney concurs with Mr. Cobbett in the belief, that the Ruta Baga is sweeter and far more nutritious than any

* "In the last century, a professor of Chemistry in Italy, discovered that the meal of maize, (Indian corn) like the meal of wheat, contained not only starch, but a soluble mucilage or extract, and a glue of the same nature as animal matter."

This is stated by Dr. Pearson, in his analysis of the potato root, communicated to the Board of Agriculture; which, as well as Mr. Hayes' communication above-mentioned, appear in a report on the Culture and Use of Potatoes, published by the board in 1795. I wish some of our chymists would analyse the best sorts of Indian Corn; I am inclined to think this grain contains nearly or quite as much nutritive matter as wheat.

other root, or vegetable for feeding live stock." But this is mere matter of opinion. Even to the taste, the parsnip, carrot, and every sort of beet, is manifestly sweeter; and to decide practically the value of Ruta Baga, compared with other roots, in fattening cattle, more accurate experiments will be necessary than have been made with either. In the mean time, we may more confidently rely on the analysis of vegetables by so distinguished a chymist as Sir Humphry Davy. He states, that the red beet contains 121 parts in a 1000, of saccharine matter or sugar—the white beet 119 such parts—parsnips 90, and carrots 95; while the Ruta Baga contains no more than 51 such parts. The mangel wurzel, or greater beet, is in taste like the red and white beets, and doubtless contains as much saccharine matter; all of them more than double the quantity of nutriment that is afforded by the Ruta Baga; and parsnips and carrots fifty per cent. more. On strong lands in England, the mangel wurzel yields currently 48 tons per acre. See Memoirs of the Philadelphia Society of Agriculture, Vol. III. Appendix p. 97, where the mode of culture is given, for the regular production of such immense crops. Of carrots, eighteen tons (upwards of 700 bushels, 56 lbs. to the bushel) have been raised on an acre in Massachusetts; and these, as well as the mangel wurzel, cattle eat with great avidity. For cows giving milk, both are to be preferred to the Ruta Baga, even if they gave no more nutriment. In the last autumn, the flavour of the butter was very much injured by my cows feeding plentifully on the neches and leaves (greens, as Mr. Cobbett calls them,) of the Ruta Baga.†

Conclusion.

Ruta Baga sown in June will yield great crops: the seed vegetate quickly, and the plants soon attain a size to admit of easy culture. The root is hardy, will endure severe cold and keep till mid-summer of the year following their growth; and are usefully applied for food to all domestic animals, cows giving milk probably to be excepted.

Mangel Wurtzel, cultivated in the same manner, and sown in April or early in May, will yield crops as large as the Ruta Baga; individual roots growing to the weight of from 5 to 10 pounds. But the roots will not bear frost like the Ruta Baga. It will be more easy to preserve them in winter, in the middle than in the northern states. The genuine mangel wurzel is of a red colour; and when full grown, has more than half its body above ground.

Carrots being of a smaller growth than either of the former roots, seem to require a different arrangement. Instead of one row on a ridge, I would sow two rows, ten or twelve inches apart; and thin the plants to 4 or 5 inches distance in the row, with intervals of three feet between the

† A late English writer (Honington Moubay, Esq.) treating of the food for milch cows, says "Cabages may be given moderately, but turnips (he probably means the common turnips) make thin milk and bad butter, in spite of all the nostrums which have been recommended as preventives." I fear the Ruta Baga will not be wholly free from the same objection.

double rows, for tilling them with the plough. In this manner, I entertain no doubt that twenty tons and upwards to the acre may be raised.

Both carrots and mangel wurtzel, being of much softer texture than Ruta Baga, are more easily chopped into pieces for cattle. It is generally understood that cows giving milk in winter, if fed plentifully with carrots will produce yellow butter. Mr. Jefferson's authority may be adduced for stating, that the famous Parmesan cheese of Italy, receives its light yellow colour from the juice of carrots, mixed with the milk or curd. The flavour of American cheese has sometimes appeared to be injured by an excessive use of annatto; the same colouring that has long been used in England. The practice doubtless originated in deception, to give that colour *artificially* which *rich milk* afforded of *itself*, a fine yellow. The practice in both countries is now continued from fashion. The Parmesan, according to Mr. Jefferson, is a two meal cheese, made of the night's milk skimmed, (the cream being taken off very early the next morning for making butter) and mingled with the new milk of the morning. It is not a fat cheese, and this accounts for it.

I am, Sir, your obed't, serv't.

T. PICKERING.

January 4, 1820.

From a Series of Essays on Agriculture and Rural Affairs; by "Agricolo," A North Carolina Farmer.

Horizontal Ploughing.

There is no improvemet in agriculture which promises to be of more lasting benefit to our country, than horizontal ploughing.

Such has been the system of agriculture among us for ages past, that hilly or broken lands have been no sooner cleared, than wasted.

To test the correctness of this assertion, we need only cast our eyes over the different parts of our country, to behold thousands of acres of hilly land rendered entirely barren, not so much from the vegetable nutriment being extracted by the crops cultivated thereon, as from the soil itself being washed away and deposited in low and sunken places, creeks, rivers, &c.

What would be the consequences of such a system of Agriculture, if it admitted of no remedy or improvement. As a great part of the United States consists of hilly or broken land, the consequences would not only have terminated in the destruction of the soil; but would have extended to the impoverishment of half a nation, and even the destruction of navigation itself.

I do not, therefore, hesitate to believe, that horizontal and deep ploughing, promise to be the salvation of our hilly lands, particularly if combined with enclosing, the use of Plaster of Paris and Red Clover.

Horizontal Ploughing was first introduced

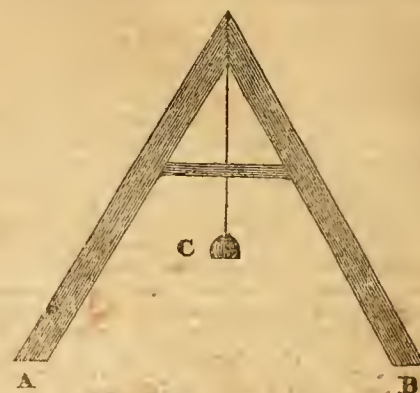
into practice in this country by Col. Randolph of Virginia, son-in-law to Mr. Jefferson. Mr. Jefferson, who has frequently witnessed the great and beneficial effects resulting from this practice, not only on the farm of Col. Randolph, but also on his own, thus details the mode of horizontal ploughing in a letter to a distinguished farmer of Massachusetts, and published in the Agricultural Repository:

"Horizontal Ploughing has been practised here (Virginia) by Col. Randolph, my son-in-law, who first introduced it, about a dozen or fifteen years ago. Its advantages were so soon observed that it has already become very general, and has entirely changed and renovated the face of our country. Every rain before that, while it did a temporary good, did greater permanent evil, by carrying off our soil, and fields were no sooner cleared than wasted; at present, we may say that we lose none of our soil—the rain not absorbed in the moment of its fall being retained in the hollows of the beds until it can be absorbed.—Our practice is, when we first enter on this process, with a rafter level of ten feet span, to lay off guide lines, conducted horizontally around every hill side, and about thirty yards apart; the steps of the level on the ground are marked by the strokes of a hoe, and immediately followed by a plough to preserve the trace; a man, or a boy of 12 or 15 years old with the level and two smaller boys to mark the steps, the one with sticks, the other with the hoe, will do an acre of this an hour, and when once done, it is for ever done. We generally level a field the year it is put into Indian corn, until all have been once levelled; the intermediate furrows are run by the eye of the ploughman, governed by these guide lines, and is so done as to lay the earth in horizontal beds of 6 feet wide with deep hollows or water furrows between them, to hold superfluous rain—the inequalities of declivity in the hill will vary in places the distance of the guide lines, and occasions gorges, which are thrown into short beds.

"I have transferred this method of ploughing to a possession I have near Lynchburg 90 miles to the S. W. from this place, where it is spreading rapidly, and will be the salvation of that, as it confessedly has been of this part of the country.

"Horizontal and deep ploughing, with the use of plaster and clover, which are but beginning to be used here, we believe will restore this part of our country to its original fertility, which was exceeded by no upland in the State."

As many persons may not have a correct idea of the rafter level, the use of which is recommended in this Essay, the Editor has procured the annexed engraved representation of it.



A B, the feet of the rafter level C, a weight suspended from the centre.

It is necessary to caution the reader, that unless horizontal ploughing be correctly done, it had better not be done at all; because I have observed that many have attempted this mode of ploughing, without understanding its principles: If the water furrows, which are intended to hold the superfluous water, have the least descent one way or another, they will have the effect of throwing the water to one point, where such a quantity will be collected in heavy rains by a number of water furrows leading to the same point, as will inevitably produce a breach through the ridges. It is advisable, that before the level is applied to a field, its surface be made as even as possible; this is best done, if its unevenness renders it necessary, by flushing up the ground in the fall or winter with a mould board plough, and early in the spring to be well harrowed with a two horse harrow; this last operation will not only level the surface, but will have the additional valuable effect of breaking the clods and thereby effectually pulverizing the ground, which will prove of great advantage to the corn in every stage of its growth. The level in this case may be applied in the spring and the ground listed or thrown into horizontal drills for the planting of the corn. Success in horizontal ploughing depends on the exactness of the level to suspend, and the depth of the ploughing to absorb the water. Enclosing is indispensably necessary to make it beneficial, as by that, the earth is brought into a proper state for absorbing more water, and the suspension of the progress of this water by its vegetable cover, allows more time for the operation of absorption. In heavy rains, when the ground is in cultivation, and however accurately levelled, instances will occasionally occur of breaches across the horizontal beds. The remedy is, to fill them immediately with brush having the leaves on, well packed.

These instances, however, are very rare, and easily thus cured.

Besides the inestimable advantages from horizontal ploughing in protecting the soil against the wasting effect of rains, there is a great one in its preventing the rains themselves from being lost to the crop. The Indian corn is the crop which most exposes the soil to be carried off by rains; and it is at the same time the crop which most needs them. Where the land is not only hilly, but the soil thirsty, (as is generally the case with such lands) the preservation of the rain as it falls, between the drilled ridges, is of peculiar

importance; and its gradual settling downwards to the roots, is the best possible mode of supplying them with moisture. In the old method of ploughing shallow up and down hill, the rain as well as the soil was lost, which not only destroyed the upland, but rushed down and poisoned the valleys. The result of horizontal ploughing in Virginia is extremely encouraging to those who may wish to adopt this practice here. Farms here which are very hilly, whose soils were particularly liable to be washed away, and which were excessively galled and gullied, have been relieved probably of nineteen parts in twenty of those calamities by horizontal and deep ploughing in combination with enclosing.

FOR THE AMERICAN FARMER.

PROCEEDINGS OF THE AGRICULTURAL SOCIETY
OF ALBEMARLE.

ON STONE FENCES.

No. 9.

[READ, Oct. 11th, 1819.]

In a former communication to our society on the subject of secret or covered ditches, among other arguments in favour of using stone for that purpose, I mentioned that we thereby, often cleared our fields of a great nuisance. Certainly a more obvious and more effectual means of accomplishing this end, is to use the stone as a material for fencing; and though every one, perhaps will agree with me in this opinion, and allowing the great advantages of having our arable lands cleared of large stone, yet we scarcely see any attempt towards the construction of stone fences, even where the material is most abundant. At the same time, it is not uncommon to observe large piles of stone heaped together at considerable expense of labour, and occupying in some places a fourth or fifth part of a cultivated field.

The dread of innovation and the want of experimental enterprise, have heretofore been the reproach of our farming. I know many persons fully convinced of the efficacy of Gypsum in improving the soil who forego the use of it for the sole reason, that they have not been accustomed to it. In like manner many can give no better reason for not adopting the horizontal culture of corn in our hilly country, than that their father's did not practice it.

This horror of change can certainly be the only reason for heaping stones in a field, instead of disposing them along the sides of it in a fence. Perhaps the dread of encountering a tedious and tried undertaking may have deterred many from an attempt to construct stone fences. I assure all such, that this dread is in a great measure unfounded.—More than 18 months ago, I made my first essay in this business, without the experience of its ability to withstand frost, or knowledge of the method of erecting it. I commenced I confess, with considerable anticipation of encountering a tedious business, but was exceedingly surprised to find when the materials were in place, that one man could erect ten rods in a day. The fence which I made was 4½ feet high, 3 feet wide at the base, and tapering gradually on both sides to the width of 18 inches

at top. It has barred every kind of stock but sheep, and stood the frost of last winter without injury.

The mode of erecting it was regular and simple in the extreme. Take 4 stakes about a foot longer than the proposed height of the fence: point one end to be driven into the ground, and round the other to receive a wooden cap or collar, with two holes, bored at the distance of the width of the intended fence at top. Place two of these stakes in the ground as far apart as the proposed base of the fence is wide, and draw the tops together until they receive the cap. Do the same with the other two stakes, in the direction of the fence, at the distance of the lines you work by. Notches at 6 or 8 inches apart, should be cut in each stake to raise the lines to, and as you proceed to work, the position of the stakes always afford the proper level.

Mr. Thomas Moore, the present engineer to the board of public works, was with me last fall, and gave me some valuable information on the subject of stone fencing. He had resided in a part of Maryland, where it has been long and extensively practised, and stated that general experience had proved that in erecting such fences, it was necessary to attend to these rules. "Dig no foundation, unless it be to smooth or level the surface, taking care to leave no loose earth for the stones to be on. Then make the bottom course throughout of the smallest stones you have, and these as nearly of the same size as possible. Let no stones reach through the fence until the last course when if practicable most of all of them should reach through thereby binding all the work tight."

As frost is the only enemy to stone fences, the propriety of using small equal sized stones for the foundation, is manifest; for the expansion of the earth in freezing and thawing being uniform and regular, and the whole foundation being acted on alike, you thus avoid all risk of the fence being partially thrown down by frost. The other suggestions of Mr. Moore seem just, but I cannot speak from experience of their advantages.

An inquiry naturally presents itself on this subject;—What is the relative value of a farm fenced with stone, compared with one fenced with dead timber? Take the following data.

From the best accounts I have been able to obtain from others, and from my own experience, it may be fairly stated that one full month of the whole annual labour of every farm, is consumed in the various operations of cutting, hauling, and putting up fences.—This is one twelfth of the year or one complete year in twelve, that is devoted exclusively to making and repairing dead fences;—and as the expense is annual, it is clear that the condition of such fences, is no better at the end of any year than at the beginning.—Again—I think it may be fairly stated, that when the materials are in place, the expense of erecting a stone fence does not exceed that of erecting one of rails, including the various operations above-mentioned. The value of the timber (which is not taken into the account above) and the advantages of having the land cleared of stone, will balance the expense of moving the stone 3 or 4 hundred yards. So that on a farm abounding with stone, and where

the transportation does not exceed this distance, I think a fence of stone, will in the first instance be as cheap as a rail one. Suppose then two farms of 500 acres of arable land each in all other respects equal, except that one is fenced with stone, and the other with dead timber. Each of them employs 12 labourers at \$100 a piece per annum. One is at no expense, while the other who fences with timber consumes one month in every year, in making and repairing his fences. This is an expense of \$100, being the labour of one hand during a complete year. At annual compound interest, this would amount in less than 33 years to \$10,000, which is the entire price of the land, supposing the farm to be worth 20 dollars per acre. Thus in 33 years, the one farm would be able to buy the other, from the expense saved by the different mode of fencing. It is true there are not many farms capable of being entirely fenced with stone, but there are scarcely any that do not admit of it in some degree, and the advantages would be derived in a similar ratio to any part which could be thus enclosed.

P. MINOR.

Ridgeway, Oct. 1st. 1819.

Mr. Madison, President of the
Agricultural Society of Al-
bemarle.

THE FARMER.

BALTIMORE, FRIDAY, FEBRUARY 4, 1820.

An accurate comparison of the relative merits of the different Wheat Machines now in use, in various parts of the United States, is very desirable—and we beg the favour of gentlemen acquainted with the different kinds, to give the information. Many who have never seen any thing of the kind, but are desirous of abandoning the old method of treading, are deterred from buying machines by the great difficulty of procuring good information in regard to their cost, and their power of executing the work, which their makers never fail to promise for them.

To the Editor of the American Farmer.

MR. SKINNER:

I am pleased to find your paper is widely circulating over the country, and I think it promises to be the vehicle of communication, for all grades of the agricultural community.

You have undertaken an arduous task. The discussion (I may say) of a subject the most important to every class of mankind. It is a difficult task, and requires much consideration, to select from all your correspondents, for publication, those opinions which are entitled to most respect, and those practices, which may be proved to be most beneficial. And although there are some persons who write for publication, who might be displeased, when they are refused a place in your paper, yet as it would not contain the one fourth part of the communications from your correspondents, it is necessary that you should be allowed the privilege of selecting essays or extracts, which will best answer the ends you have in view.

This, to be sure, is throwing great responsibility on you, but as you assumed it, in the first instance, you will not shrink from the duty now. I do not know whether you have ever been engaged in agriculture, but I have seen sufficient

evidence, in your notes on different essays, to satisfy me, that you will make your paper, a very valuable Agricultural Repository, and I should be pleased, if you can find time to favour us with more extensive notes.

You appear to be desirous, that your correspondents should publish their names, but with great deference I must beg leave to differ with you in opinion. Men in high stations, may recommend erroneous practices, and a common farmer may state very important facts in contradiction; and if both statements go to the public, unsupported by the influence of high character, the public will pay equal respect to, and impartially weigh the merits of both. For instance, suppose I should have stated in public print, that brine from my meat tubs, would effectually destroy thistles. I, an obscure farmer, on a small scale, could have had no influence on the public, or the printers, the matter would have passed off unnoticed. But when this discovery has been made known by a gentleman of great acquirements, who fills a conspicuous place in the annals of our country, it is copied into almost all the prints I have seen. I was really amused to find that letter going the rounds, as if it communicated something of great importance. The cure, I am sure, would be effectual, where the application could be properly made. Brine, if strong enough, will kill thistles, and it will also kill the largest tree in the forest, if applied in sufficient quantity. For I have seen the last season, a very large Lombardy poplar, which was killed by having a tub of brine emptied upon its roots. Brine will not only kill thistles, but it will also destroy every other vestige of vegetation. If thistles are numerous, it is impracticable to destroy them profitably in this way. The writer also says, that apple pumice may do as well—that is, that in the fall of the year when the seed from one acre of ground, shall have been wafted by the wind, over a much greater surface, you apply a plaster of pumice, to destroy the parent plant. How ineffectual is this plan also, and I cannot forbear to compare both those remedies to the Negro's powder for killing musquitoes. "Catch the musquito, take him by the back of the neck, open his mouth, and put the powder in his mouth."

Now, instead of applying brine or apple pumice, I would prefer the grubbing hoe, before the blossoms ripen. A man would destroy the weeds much sooner, cheaper and more effectually, with the hoe, than by the pumice-plaster or salt brine.

I have referred to this case, merely to invite your attention to the necessity of making judicious selections. I might also point to some other opinions, published in the Farmer, which differ from the experience I have had. But my experience has not been great, and my practices in agriculture, perhaps, ought not to be imitated. With your permission I may furnish you with some further occasional remarks, and as I do not write to be known, you will estimate my communications at what they may be worth, and I will freely consent that you may reject any thing you do not approve. I entirely failed in my Rutabaga crop, owing to the uncommon drought last year.

A.

Agricultural Societies.

The rapid improvements which have been made by our agricultural societies, while yet in a state of infancy, promise great and substantial benefits to the country. And it gives us pleasure to perceive that they are not insensible how important it is to a successful prosecution of their labours, to encourage the breed of that useful animal, the horse. In several instances, we see handsome premiums offered for the best stud, that shall be produced at their annual fairs. If our legislatures will only dismiss their mistaken prejudices, and second the efforts of these societies, but a short time will elapse before we shall have a breed of horses equal, if not superior, to any in the world. Let us therefore hope, that the numerous and respectable applications which have been made to our Legislature, now in session, to repeal their prohibitory acts, will not be made in vain. Within a few months past, a company of gentlemen have purchased at a great price the most perfect and beautiful Arabian stud, ever brought into this country, and if sufficient encouragement is held out, there is every reason to believe that others will follow the example.

Evening Post.

How to make White Spruce Beer.

For a cask of six gallons, mix well together a quarter of a pound of the purest essence of spruce, seven pounds of loaf sugar, made into a clarified syrup, and about a gallon and a half of hot water; and when sufficiently stirred and incorporated, put it into the cask and fill up with cold water. Then add about a quarter of a pint of good ale yeast, shake the cask well, and let it work for three or four days; after which bung it up, in a few days it may be bottled off after the usual manner, and in a week or ten days will be fit for use. If on bunging it close, about a quarter of an ounce of isinglass, first dissolved in a little of the warmed liquor, or in cider, be stirred in by way of fining, it will acquire a superiour degree of clearness. In proportion to the coldness of the weather, the quantity of the yeast should be increased. Some instead of yeast, use ale or beer grounds the first time of making, and afterwards the grounds of their former spruce beer: in warm weather very little ferment is requisite.

RECEIPT FOR CURING THE TETTER WORM.

Take a lump of rock salt, size of a common hickory nut; the same quantity of alum and copperas—burn them separately on a shovel and pulverise them together—then put them in a bottle, and pour in half a pint of strong vinegar: and every night on going to bed, wash the part affected with a soft rag.

E. S. Virginia, 15th Jan. 1820.

Mr. Skinner:

I observed that for some time past you seem to have been so much occupied with farming and other matters, as to have entirely forgotten the Muses. I am sure that many of your readers particularly the ladies, would not object to a Poet's corner in your useful paper. If you have nothing offered at present more deserving, you may insert the following effusion.

Oh! Oft have I met the sweet smile of affection,
As fondly it beamed from the languishing eye;
And oft has that smile kept the heart in subjection,
While cherishing hopes it half smother'd a sigh.
I've seen the bright tear from affection fast flowing,
Glide burning and swift o'er a rose colour'd cheek,
Her bosom with fear and fond hope softly glowing;
Spoke more by a sigh than an angel could speak.
I've seen the breast heave with tumultuous emotion,
While passion had chok'd up each heart breaking
sigh,
Oh! could I then think that such love-like devotion,
Could fade in that bosom, could wither and die.
Could think that the smile which so oft has imparted,
A joy to my bosom that wealth ne'er bestows;
The tear of her eye too, by passion first started,
Was fated to fade like the morn blushing rose.
But alas! lovely woman how fickle thy heart;
Thy sighs and thy tears, thy vows too how vain,
The bliss which to-day thy fond smile can impart,
Thy frown by to-morrow may turn into pain F.

GRASS SEEDS

OF FIRST QUALITY.

Red and White Clover, Orchard Grass and Timothy Seeds, of first Quality,

Received and for sale by the subscriber, Also

Ground Plaster, put up in barrels;

All of which may be had during the season, for sowing and plastering the land.

ELY BALDERSTON,
No. 61. Smith's Wharf.

February 4th, 1820.

P. S. It is found from the experience of many practical farmers, that the Orchard Grass stands unrivaled as pasture, it comes forward from two to three weeks sooner than any other grass, and resists the frost as much later, and covers the ground with a luxuriant crop if wanted to turn in. But for the purpose of manuring the land, it is believed no grass in this country, is equal to what is called the Tall or Saplen Clover, as its turn out is much heavier than the common Red Clover; and it may be had as above. It is well adapted to cultivate with Timothy, as its growth is about the same in height, and ripens at the same time; thus mixed the hay is far preferable to either, being separate.

Red Clover, \$11—White, \$15—Orchard Grass and Timothy, \$5, &c. per bushel.

Clover and Timothy Seeds.

The subscriber has just received a supply of Clover and Timothy Seeds, of superior quality. He has also on hand, Orchard and Herd Grass Seeds.

Apply at his Grocery Store, Calvert Street; where may be had a large and general assortment of Groceries.

GERARD T. HOPKINS.

February 4th, 1820.

BALTIMORE,

PRINTED EVERY FRIDAY,

For John S Skinner,

AT FOUR DOLLARS PER ANNUM.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norunt
"Agricolus." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, FEBRUARY 11, 1802.

NUM. 16.

AGRICULTURE.

AN ADDRESS TO THE

Virginia Agricultural Society
OF FREDERICKSBURG.

Delivered at their stated Meeting in May, 1819.
by James M. Garnett, Esq. President of said Society.

Gentlemen,

Permit me to congratulate you on the passage of a law incorporating our Society, for which a petition was presented by your direction to our late legislature. This measure at once secures permanence to our institution, and enables us both to hold and to manage funds sufficient for all our purposes; but the accumulation of these funds must depend principally on the augmentation of our members, and the regularity with which we make our respective contributions. That the adjacent country affords ample materials for an Agricultural Society, on a large and liberal scale, none who know it can doubt. It seems equally clear, that no spot within our probable limits can furnish a more convenient place of meeting. No obstacles therefore exist to our success, than such as zeal and perseverance can readily overcome;—no means are wanting to ensure our prosperity, but those which a moderate share of public spirit can easily supply;—and few checks are likely to impede our utility, but such as we ourselves interpose. The public sentiment, every where, is highly favourable to present, to all the objects of our society;—let us endeavour then, to avail ourselves of all these auspicious circumstances, and according to the prudent farmer's excellent rule, diligently exert all our efforts to make hay whilst the sun shines."

In discharging the duties of the office with which you have honoured me, could I believe, that I had anything else to do, but to paint for your imaginations the pleasures of agriculture—the green meadows, the verdant lawns, and glowing landscapes of arable fields, with which a bounteous Providence has endowed the cultivators of the soil to solace and regale both their animal and intellectual natures, the task could not only be easy, but delightful. When attempting, however, to perform the part of a faithful pilot, I feel myself bound to exhibit, not merely a decorated sketch of the captivating scenery and picturesque views which the active, intelligent husbandman has often the power in a great measure to create, but also to trace a warning chart of the shoals and quicksands, the rocks and barren wastes, that too frequently impede his progress, exhaust his substance and mar his happiness. This although the most necessary, is by far the most irksome part of my duty; at in the endeavour to execute it properly, should I have the good fortune to suggest any hints which may prove practically useful, I shall deem myself amply rewarded.

It will not, I presume, be denied, that all those causes which influence the conduct and affect the character of any one class in society, are proper subjects of consideration and discussion for every member of such class. Hence it would seem not irrelevant in an address like the present, to take a somewhat wider range, than at first view might appear proper. Thus, if industry, skill, and economy, are identically necessary to make agriculturists rich, and virtuous and morals with improved understandings to render them happy; the cultivator of the soil who attempts to persuade his brethren to seek their true interests,

executes but a small portion of his task; and he who may be said greatly to fail in his duty, should he neglect to urge every thing in his power on the foregoing topics calculated to demonstrate, that they are not less essential, than the judicious application of fertilizing substances, skilful tillage, and an attentive selection of the most perfect implements of husbandry. Shall the lecturer on agriculture be thought to depart from his proper province, who ventures to enlarge upon such subjects? I trust not; for surely it requires something more to form a complete and accomplished agriculturist, than to make him a mere planter and sower of seed, a reaper and mower of grass and corn, a contriver and fabricator of agricultural tools, a good tiller of the soil, an ingenious constructor of stercoraries, or a dextrous gelder of lambs and pigs. Not that I mean, or wish to depreciate a knowledge of all, or any of these matters, each of which is necessary in its proper place; but I confess myself anxious to prove, that it falls far strictly within the limits of an address on such an occasion as the present, to aim not less at exalting through the moral qualifications of the agricultural class of our nor the painful admonitions of daily experience, affords more than some feeble checks to their destructive mechanical operations incident to their profession. To inculcate a due regard to these, is certainly authority, that "it any will not work, neither shall my duty; but I trust, that it will not be considered as a departure from it, should I endeavour also to assert and maintain our just claims to the highest rank in public estimation on the score of general utility; to point out the chief means necessary for the attainment of this rank, and to impress this truth on every member of our numerous fraternity; in fact, the cultivators of the soil are, in fact, the foundation, the main pillars, and Doric columns of our great social edifice.

It is, surely, not the sole business of the agriculturist to make good crops, and to enrich his land, or he would deserve to rank but little higher in the scale of being, than the ox, the horse, or the mule, which he drives. Would he either reach or maintain that exalted standing among his fellow men to which he has so just a title, let him make himself worthy of it by the diligent culture and unremitting care—not only of his fields, but of all his faculties both intellectual and physical.

That provision in our state constitution defining and limiting the right of suffrage, and which many consider its most valuable feature, is founded upon the principle, that those who own the soil of a country, should also be its legislators. On the merits of this much controverted question, this is not a proper occasion to enlarge; but thus much I will take the liberty to say—that as long as we have such a constitutional regulation, it surely is the paramount duty of every landholder so to educate both himself and his children, that should they ever be called to discharge this high function of legislation, they may not be found quite unqualified. To expect competent legislators, and the preservation of liberty in a country where the great mass of the people having the exclusive right to legislate, should be ignorant, would be not less absurd, than to calculate on reaping without sowing, on delicious fruits and corn from briars and weeds; or upon health and vigour from a diet of thistles and barnacles. Again—every parent is, or ought to be, the first instructor of his child in the rudiments of knowledge, as well as of the various duties incident to his more advanced age. Hence, his being a planter or farmer does not exempt him from the necessity of a considerable degree of moral and literary culture. Almost every Virginia agriculturist too, is also a slave-holder,

whose proper management many more qualifications are essential than are likely to be found either in the vocabularies, or in the imaginations of young men suffered to grow up in the haphazard way, that too many farmers permit their sons to choose for themselves. So that whether we consider the agricultural class with a view to public utility or private interest, their general education and great mental improvement appear equally necessary.

But, after all, without industry and economy, the highest intellectual culture, with all the most virtuous dispositions imaginable, are unavailing to agriculturists, and upon these points it is feared, that sapient precepts will be found rather more abundant, than good examples. In opposition to the practice and influence of the last, stand our natural indolence, and a whole host of luxurious and expensive habits, the concomitant evils of our national progress in wealth and refinement. And such is the combined force of these powerful temptation, that neither the strictly within the limits of an address on such an occasion as the present, to aim not less at exalting through the moral qualifications of the agricultural class of our nor the painful admonitions of daily experience, affords more than some feeble checks to their destructive mechanical operations incident to their profession. To inculcate a due regard to these, is certainly authority, that "it any will not work, neither shall my duty; but I trust, that it will not be considered as a departure from it, should I endeavour also to assert and maintain our just claims to the highest rank in public estimation on the score of general utility; to point out the chief means necessary for the attainment of this rank, and to impress this truth on every member of our numerous fraternity; in fact, the cultivators of the soil are, in fact, the foundation, the main pillars, and Doric columns of our great social edifice.

Induced by the rapid influx of commercial wealth, for the last 20 or 30 years, have occasioned an augmented use of the precious metals for the purpose of decoration, and what is falsely called ornaments fully equal to the whole specie circulating medium of the United States. But the true ornaments of the farmer, especially in a republican government, where almost every thing depends upon the character of its yeomanry, should be an open sincerity and simplicity of manner; a plainness and neatness of dress and equipage; a self-possession and independence of character placing him far above the servile imitation of all fopperies whatever, either of foreign or domestic growth; and a sociality of temper displaying itself rather in a warm, cordial reciprocation of hospitable intercourse with friends, neighbours and strangers, than in such vain pageantries, as can lead only to a deterioration of morals, or the ruin of fortunes. The sole hope of providing even a partial remedy for these evils, must be sought in a much longer and stricter course of intellectual discipline, than I fear, either agricultural fathers or sons will be willing to encounter.

Some of the effects of these changes in manners and habits, we already begin to see and feel most sensibly; but like the rest of mankind, always willing to place the blame of our errors on any shoulders rather than our own, we very consolingly impose the whole burden upon the times! as if they could force us to spend money lavishly, whether we chose it, or not. But the truth is, the whole nation (with a few exceptions here and there) have in reality, for a long period, been "outriding their horses," and have kept their expenditures at the full gallop, whilst their incomes have (comparatively speaking) been only at a moderate trot; or rather perhaps, like highly pampered, ill-broken colts, we have caught the bridle between our teeth, and unresistingly

suffered our imaginations to run away with our better judgment. That these habits of prodigality are among the most prominent and formidable obstacles to the progress of our agriculture, I think no man of reflection can doubt. They inevitably create that "want of funds," so often resorted to, as the excuse by which we endeavour to conceal from ourselves and others the folly of delaying our attempts at improvement. And this pretext is admitted by many, as a full acquittal, if we only add the trite remark, that agriculture, like many other things requires considerable capital to carry it on successfully. But it surely is very bad reasoning to say, that because we cannot do at a single stroke every thing which ought to be performed, therefore we will do nothing. Yet something strongly resembling this logic seems to influence the minds of those, who reply to the recommendation of so small a beginning, as a few bushels of clover seed and plaster of Paris, by pleading their inability to buy enough "to make it" (as the common phrase is) "worth while." If we have not the cash in hand, let us only consider how few of these retrenchments which all of us could make, would be necessary to effect the object, and that the money so laid out would pay us *shaving* interest. A few less ribbons and flounces to our wives and daughters; a few less frolicks to ourselves; a few less games of cards; some small diminution of our most costly liquors, and a moderate curtailment of numberless, little, unnecessary expenses which almost every man incurs, would soon raise a fund—taking the whole State into the calculation, sufficient to fertilize many thousand acres, at present nearly barren. If it be objected, that the ladies would probably demur, I must say, to the honour of the sex, that in nine families out of ten, where any economical reform may be deemed necessary, I am thoroughly persuaded, if the first sacrifices are not actually proposed by the female portion of the partnership, they will be the first to make them, and to make them cheerfully too; especially where in all committees of finance they are treated contrary to custom, with the most unreserved confidence, as having a joint and not a separate interest. It is the height of absurdity in husbands and fathers to expect the members of their families without having some good reason assigned over and above the master's unexplained wishes. Mutual confidence in money matters can alone beget mutual efforts in family economy and constitutes in fact, their only secure basis. It is equally true, that without a considerable degree of this economy, which is becoming more and more necessary every day from the diminished, and necessarily diminishing prices of agricultural products, the cultivator of the soil has no right to expect a great degree of wealth. Not less true, is it, that in practising this economy, fully half depends upon the other sex, whose dispositions in this respect, I must again repeat, have never I believe, had full justice awarded to them. In all the heroism of patient suffering; in every sacrifice of selfish gratification for family good; in the unrepining endurance of privations dictated by a sense of domestic duty, I fear, it must be acknowledged, that they are greatly our superiors, when not corrupted by false education, or utter neglect. Give them any good cause to believe that somewhat higher duties are expected of them, than merely to keep safe our keys; to compound puddings and soups of mysterious excellence; and to excel in the occult art of multiplying domestic fowls, (not that I would have any of these comfortable matters altogether neglected) and all the amiable, characteristic qualities of the sex; all the distinguishing excellencies of the female character will soon be elicited. Instead of being degraded by our selfishness, our jealousy, and our neglect into mere henwives and drudges, or fantastic toys (as we sometimes see them,) decorated with feathers, and bedazzled with tinsel; altogether incapable of serious reflection; studying nothing but how to lavish wealth, to diversify frivolity, and to make coxcombs of the men resembling themselves in

disposition; we should behold, with much fewer exceptions than at present, a race of Beings at once the pride, the ornament, and the delight of mankind; the child's best instructors, the parent's most intelligent assistants, the enhancers of all pleasure to the happy, the best friends and comforters of the afflicted. But to return from this (I trust) very pardonable digression in honour to those of whom, under Providence, we owe not only our existence, but the first lessons of our early youth in knowledge and virtue, and the chief comforts and pleasures of our maturer years.

The general habits of fashionable expense in dress, equipage and living, so prevalent in the present day, as to have infected even the cultivators of the soil; produce not only excess of expenditure over income; but withdraw from the improvement of our lands, those resources now so profusely squandered on splendid foppery and dazzling gewgaws; on horse-trappings and riding carriages of excessive cost; on "Cossack pantaloons," "Wellington boots," thirteen-caped great coat, and male corsets, those most unmanly of all imported abominations of the present times; and in short, on the whole ridiculous and effeminate paraphernalia of modern Dandyism. Whether there be any necessary connexion between effeminacy of body and mind, and expensively luxurious habits of living, I will not take upon me to affirm; but certainly such an opinion has prevailed from the earliest ages. There is a curious passage quoted by Hume from that quaint and ancient chronicler, Holingshed, illustrating the prevalence of this opinion, at least as far back as the days of Queen Elizabeth. I give it more with this view, than from any particular preference for the fashions of those times, which from all I can understand of them, would suit my own taste, perhaps as little, as that of any man in the nation. The passage is as follows:—"There are old men yet dwelling in the village where I remain, which have noted three things to be marvelously altered in England within their sound remembrance. One is the multitude of chimneys lately erected; whereas in their young days, there were not above two or three, if so many, in most uplandish towns of the Realm, (the religious houses and manor places of their lords always excepted, and peradventure some great personages;) but each made his fire against a redosse in the hall where he dined and dressed his meat. The second is the great amendment of lodging: For said they, our fathers and we ourselves have laid full oft upon straw pallets covered only with a sheet under coverlets made of dagswaine and behariots, and a good round log under their heads instead of a bolster. If it were so that the father, or the good man of the house had a mattress or flockbed, and thereto a sack of chaff to rest his head upon, he thought himself to be lodged as the lord of the town: so well were they contented. Pillows, said they, were thought meet only for women in child-bed: as for servants, if they had any sheet above them, it was well: for seldom had they any under their bodies to keep them from the picking straws, that ran oft through the canvass, and razed their hardened hides. The third thing they tell us of is, the exchange of treene platters (so called I suppose from tree or wood) into pewter, and wooden spoons into silver or tin. For so common were all sorts of treene vessels in old time, that a man should hardly find four pieces of pewter (of which one was peradventure a salt) in a good farmer's house. In times past men were contented to dwell in houses builded of sawlow, willow, &c. so that the use of oak was in a manner dedicated wholly unto churches, religious houses, princes palaces, navigation, &c. but now sawlow, &c. are rejected, and nothing but oak any where regarded; and yet see the charge for when our houses were builded of willow then had we oaken men; but now that our houses are come to be made of oak our men not any become willow, but a great many altogether of straw, which is a sore alteration.

In those the courage of the owner was a sufficient defence to keep the house in safety; but now the

assurance of the timber must defend the men from robbing. Now have we many chimneys and yet our tenderlines complain of rheums, catarrhs, and poses; then had we none but reredosses, and our heads did never ache. For as the smoke in those days were supposed to be a sufficient hardening for the timber of the house; so it was reputed a far better medicine to keep the good man and his family from the quacke or pose, wherewith as then, very few were acquainted. Our pewterers in time past employed the use of pewter only upon dishes and pots, and a few other trifles for service, whereas now they are grown into such exquisite cunning, that they can in a manner imitate by infusion any form or fashion of cup, dish, salt, or bowl, or goblet, which is made by goldsmith's craft, though they be never so curious and artificially forged. In some places beyond the sea, a garnish of good flat English pewter, (I say flat, because dishes and platters in my time, begin to be made deep and like basins, and are indeed more convenient for sauce, and keeping the meat warm,) is almost esteemed so precious "as the like number of vessels that are made of silver." Such is the testimony of one of the most authentic and particular historians of the sixteenth century in regard to the manners, customs, and opinions of his own and the preceding age. But to come down to a period much nearer the present times. When I can first remember, the young sons of farmers and planters very rarely ever wore a great coat until after fifteen, now you may see them in some sections of the country, (with many honourable exceptions to be sure) coated, pantalooned, and corsetted out of all natural shape and motion; defacing God's image as industriously as they can; and resembling nothing "in the heavens above, nor on the earth beneath, nor in the waters under the earth."—The old farmers of former times, seldom, if ever wore gloves, unless perhaps of yarn or sheep-skin, made by their wives and daughters, as a sort of Christmas box or holyday present; and as for boots, one or two pair during life, (which was literally the whole amount of my father's stock, although he lived more than sixty years,) were deemed amply sufficient. I advert to these circumstances, not with any view of recommending a return to those long exploded, and almost forgotten habits; but merely to sustain my position, that expense and luxury have increased upon us of late years probably far beyond our means of indulgence; and to an extreme not only unnecessary but highly pernicious. Whether this is for the better or worse; and whether the hardy advocations of husbandry can be pursued most advantageously by a yeoman of the present fashion, or by one of the antique sort, it is for you to judge. Not that I would infer either that living as in the days of Holingshed, or going without boots, gloves, or great coats, would of itself make good agriculturists; any more than the mere utterance of patriotic sentiments, will make good republican citizens or the negative duties of abstinence alone constitute true Christians. But I plead guilty to the fixed belief that as much real and substantial comfort as rational men need desire, may be attained at far less cost, than we at present, seem to think requisite for its attainment; and that to retrench a portion of our unnecessary expenses, or to diminish in some degree those which are unavoidable, by using cheaper, instead of the very costly materials required by the despotism of existing fashions, for the purpose of applying the difference to the improvement of our farms, will go a great way towards rendering the pursuits of agriculture, both more pleasurable and more profitable.

(To be Continued.)

TO CURE BEEVES TONGUES.

Rub the tongues with salt, and let them remain a day to take out the blood; then rub them well with salt petre and put them in brine; after they have been there three or four weeks, take them out and wash them well, let them smoke a day or two and hang them up in a dry place to keep.

FROM THE ALBANY ARGUS.

Treatise on Agriculture,

SECTION X.

Of other Plants useful in a Rotation of Crops, and adapted to our Climate.

(Continued from No. 38, p. 303.)

These may be brought under three classes; those which yield a colouring matter, those which yield oil, and those whose bark is convertible into clothing. Of the first, are madder, saffron, and woad; of the second, poppy, colzat, and palma christi; and of the third, flax and hemp.

I. Of Madder.

Madder is the *Erythros* of the Greeks and the *Rubia* of the Latins; so called from its imparting a red colour to wool and leather. It is cultivated in the Levant, in France, in Flanders, and in England; but nowhere more extensively or profitably than in Holland. The province of Zealand is principally occupied with it, and the little island of Schowen alone lives annually one thousand tons of the root.

The species generally cultivated are two—the *Izara* and the *Izari*; names by which they are called in the Levant, whence the seed is generally imported to Europe and preferred to that raised in more northern latitudes.

The soil most proper for this plant is rich loam, and the manures fittest for it, the sweepings of streets and gutters and the mud of ponds. (1) It is remarked in England, that it succeeds better after a grain than after a grass crop. The preparatory labour should be performed in the fall, leaving a single ploughing only for the spring; which like those that preceded it, should be as deep as possible. The planting should follow without delay. In the Levant they form beds, alternately, of unequal elevation; one high, the other low; on the latter, the madder is planted, (2) and in the autumn of the second year, the surface of the higher bed is scattered over that which is lower; and by a similar process the next year, the lower bed is raised six inches higher than the other. By this management, the earth retains sufficient humidity for the growing plants.

In transplanting madder, care must be taken to reserve the buttons, which attach themselves to the roots, and that the roots themselves be ten inches apart in the rows, and their crowns not more than six inches below the surface.

The greatest duration of the plant is six years, but three is the permitted term; as after that age the roots lose in colour and soundness what they gain in bulk. At three years, a single root has been found to weigh between thirty and forty pounds; and the larger the root, the less does it lose, in proportion, by depication (3)

When the roots are taken up, they are suspended under cover, for ten or twelve days to dry. During this time, much of the water of vegetation is evaporated; the plant becomes soft, and is then subjected to the heat of an oven, from which bread has been taken. After a second baking it comes out dry and brittle; and, to disengage from it the earth, the small pieces and the outer skin of the root, it is lightly refreshed with a flail, after which it is fit for grinding.

II. Of Woad.

This plant, till 1756, was much employed and furnished the finest blue colour, and, in the opinion of some dyers, is even now very profitably united with indigo; giving to the colour imparted by it, more intensity as well as duration. The maturity of the

(1) Young's works.

(2) Madder requires more moisture, in its first age, than might be furnished by rains and dews—hence arose the method of raising the plants in a bed, where they might be watered at will, and afterwards transferred to the place where they were intended to grow.

(3) In large roots this loss is 6-7ths, in small ones 8ths.

leaves (the only useful part of the plant) is announced by their drooping and by the yellow colour which they take. At this signal, they must be stripped from their stems, housed, and left in mass till, freed from the water of vegetation, they begin to macerate by their own weight. They are then to be washed and reduced to a paste; after which, a fermentation takes place, and the fecula shows itself and forms a black crust, which is not to be broken, because necessary to prevent evaporation. When the fermentation has subsided, (which may be known by the diminished stench) the mass is pounded and formed into balls for use. The soil and preparation, indicated in the last article for madder, are most proper for woad.

III. Of Saffron.

This plant is cultivated only for the stigmata of the flowers, which give a yellow colour, employed in the dying and in *guache* painting.

It succeeds best in a rich, friable black earth, or in one of a dark red or chocolate colour. Some writers have remarked, that the roots, which are bulbous, grow to the greatest size in the former of these soils, and that the flowers attain the highest perfection in the latter. The manure best adapted to it is old and thoroughly rotted dung.

After being well ploughed, rolled and harrowed, the ground intended for this crop is trenched, and the roots placed in the trenches nine or ten inches apart. So soon as the flowers appear, (and they always precede the leaves) the soil about them must be lightly hoed. When fully blown, and while wet with dew, they are taken off carefully with the hand and spread upon boards, to dry. The stigmata are then separated from the styles, after which they are ready for market.

IV. Of the Poppy.

The poppy is among the most important of the oil giving plants—as well for the value as for the abundance of its produce. The oil is altogether found in the seeds, and does not partake of any somniferous or other deleterious quality, as some persons have supposed. It is often mixed with olive oil, and so long as it is fresh it is equally pleasant and wholesome. It is much used in France, Holland and Germany, in salads. Its only fault is, that if long kept it becomes thick and viscous. The plant is annual and requires a good and well laboured soil. The seeds should be taken from the ripest and largest capsules of the preceding year; should be sown early and thin, and in broad cast; because, if thickly sown, the plants rot, and if sown late they are injured by a too rapid vegetation. The fall of the leaf, the drying of the stalk and the brown colour of the capsules, indicate the time for harvesting this crop. These last are carefully gathered and dried, and the seed separated from them.

V. Of Cole

Cole is a variety of the cabbage, and the seed of which yields an oil very useful to the arts, and renders the plant of great importance in agriculture. Its general management does not differ from that of any other variety of the kind. When the seed is ripe, it must be carefully gathered and separated from its chaff. The plantations of colzat in Flanders, and particularly in the neighbourhood of Lisle, Hasbroeck and Douay, and in a part of the Escant, are immense. It generally follows a crop of well dunged, well laboured potatoes, and is followed by one of wheat. It makes part of their six years' rotation.

VI. Palma Christi, (the ricinus of botanists) has been cultivated in this state; but whether profitably or not, we do not know. Its seed gives an oil fit for lamps, but principally employed as a medicine. The cultivation of this plant has been tried in the southern parts of France, but not on a large scale, as it was found to require much ground and to give few seeds, which ripen only in succession. In Carolina, the stem attains the height of ten or twelve feet, and a diameter of four or five inches. As an ornamental shrub, the palma christi is much to be recommended.

VII. Of the Sunflower.

This plant is a native of Peru, and is cultivated, in Europe principally for the seeds, which give a large proportion of oil, of much use for domestic purposes. It requires a good soil well manured, and thoroughly worked and cleansed. The seeds should be sown one foot apart, and in rows two feet asunder. In France, the stems are employed for fuel and pea sticks, and the leaves for fodder (4)

VIII. Of Flax.

Flax is of Asiatic origin, and from its hardness and usefulness, is generally diffused over the globe. No plant undergoes a greater change in the hands of labour, and few, if any, better repays the labour bestowed upon it. (5) It is cultivated with two different views—one, for the fibre which surrounds the stem, and which is convertible into cloth—the other, for the seeds, which yield an oil very important to the arts. These different objects have been supposed to be best promoted by different kinds of seed and different kinds of culture. In England, it is believed that the seed of this country gives a flax of greater length and of finer fibre; and that the seed of Memel or Riga, (6) produces a coarser plant and greater quantity of seed. We doubt, however, the correctness of this distinction, and think ourselves supported by experience as well as theory, in placing the difference less to the account of any peculiar quality of the seed, than to the greater or smaller quantity of it sown; for we have invariably observed, that if flax seed (wherever grown) be sown thinly, the stem is shorter, the fibre coarser, and the seed more abundant—and vice versa. This difference will necessarily be increased by different modes of culture. The row husbandry, admitting of more ventilation, will hasten the maturity of the plant, and increase the quantity and quality of the seed; whereas the broad cast method will, on the other hand, retard the maturity of the plant, lengthen the stem and the fibre that covers it, and in the same proportion diminish the quantity of seed.

Flax may be made to follow potatoes very advantageously; and we have seen the practice of sowing it, with a crop of that kind, earnestly recommended. (7)

The time for harvesting flax, depends on the considerations suggested above. If seed be the principal end of the crop, your harvesting ought not to begin till this is completely ripe; whereas if the fibre be your main object, pull the flax two or three weeks earlier. Flax, thus prematurely pulled, is called *white flax*, and makes the finest thread. The exhausting quality of this plant is generally admitted, and has been long known. Pliny says of it, that it burns and degrades the soil in return for the nourishment it receives from it. (8)

IX. Of Hemp.

The cultivation of this plant need not be attempted on soils which are not naturally or artificially very rich. They who possess the former, will often find the culture of hemp useful in reducing the staple of the soil to that medium quality, which is best fitted for the production of grain. In some parts of our own country hemp has been cultivated many years in succession, before this effect was produced; and in Italy, in the neighbourhood of Bologna, (after centuries of cultivation) the rotation continues to be wheat and hemp alternately, and without fallows. So also in the environs of Vermonde, near Brussels, the usual rotation is hemp, flax and wheat (9) It is, perhaps, to these favoured soils we ought to look for

(4) See Crete de Paleuil on the sunflower.

(5) How wonderful the difference between the raw material and the Brussels lace!

(6) The flax seed of Riga is broad and flat, and of a darker colour than that of this country.

(7) See 2d vol. Varro's husbandry.

(8) "Ut sentianus nolente id fieri natura irritum deterioreque etiam terram facit." Nat. Hist. L. xix.

(9) Francis de Neuchateau's state of husbandry in the senatoriat of Brussels.

the best mode of cultivating this very useful and profitable plant. "During the first year," says M. Simon, in his picture of the Tuscan agriculture, "the field intended for hemp is laid flat by the small Tuscan plough in the months of August and September. This is followed by the reat plough, which re-instates the four feet furrows and throws up the intermediate earth into ridges. The manure is applied to these in the spring; after which the hemp seed is sown and the ground harrowed. This crop, like that of flax, should be sown when about four inches high."

X. *Of Swallowwort, or Dogsbane.*

This is the *asclepias suricata* of botanists, and not improperly called the cotton of northern latitudes. Its cortical fibre yields a fine, soft and white thread, and the seeds a silky material, usefully employed in wadding and in hat making, &c. "There are few plants," says Bonnier, "the culture of which unites more advantages, or which is more worthy the attention of farmers." In Russia it has made considerable progress, and experience shows that in a middling, or even a bad soil, it gives a product eight times more valuable than the finest crop of flax or bay. It requires a strong and moist soil, well laboured and manured, and may be propagated by seeds, by suckers, or by roots. The row husbandry is the most proper for it, and in the course of three years, the intervals between the furrows will be completely filled up by new and multiplied shoots.

XI. *Of the plant called New Zealand Flax.*

This is the *formica tenax* of botanists; the leaves of which by maceration in water, yield a fibre remarkable for beauty and strength. We owe to M. Lahillier, a series of experiments, the result of which shows, that the strength of flax being 11, that of hemp is 16.13, and that of formica 23.5-11. In the hot countries (of which this plant is a native) it is found on the sea shore; growing sometimes in wet or marshy soils and sometimes in arid sands. M. Thouin has succeeded in naturalising it, in the north of France, which gives reason to believe that it may be made to succeed in this climate.

For the American Farmer.

SALEM, JAN. 7th, 1820.

SIR:

I dropped my letter to you of yesterday's date, into the Post Office here. In the agricultural paper it enclosed, I referred to the authority of Mr. Jefferson, for a particular use of the juice of carrots and the composition of parmesan cheese. I intended to have mentioned how I became possessed of that information, but forgot it until I had closed my letter. It was in a conversation with Mr. Jefferson, a dozen or more years ago. He gave me some account of his travelling (while he was minister of the United States, to the French court) to the south of France, and thence into Italy. Having arrived in the latter country, I asked him if he saw that part where the famous Parmesan Cheese was made? He went on purpose to gain information on the subject. I am very confident that I am not in error in stating, that the cheese was made of the evening's milk, skimmed early the next morning, and mixed with that of the morning, for making the cheese. He attended the process. When the milk had been warmed in a large copper, and the coagulation was completed, the curd was broken, and the whey separated. Of the latter, the greater part was taken out. Then the operator (a man) taking a large cloth, and stooping over and into the copper, dexterously passed it (the cloth) under the curd, and gathering the corners and sides of the cloth, the whey was returned into the copper, to render the curd buoyant, to facilitate the lifting it out of that vessel. The colouring was given with carrot juice.

I have just come from the Athenaeum of this town, where I found Arthur Young's travels in France and Italy. Mr. Young says, the Parmesan Cheese is

made wholly of skimmed milk. The management of it in the copper, corresponds substantially with Mr. Jefferson's statement to me. It was a dairy of eighty cows, which he saw; and they were then fed with green clover cut and brought to their stalls.

Doubtless in different dairies, somewhat different practices prevailed. Marshall, in his Rural Economy, says, the single Gloucester Cheese is made of the evening's milk skimmed, and the new milk of the next morning; which in New England we should call a two-milk cheese, and that the double Gloucester cheese is wholly of new milk, but made in the adjacent vale of Berkley.

I should like to see in the American Farmer, Mr. Jefferson's own statement of what he saw in Parma, or the Lodi, relative to the Parmesan cheese: it would give him pleasure to furnish you with it. It might be useful particularly in the middle states, where the summer sun, gives probably about the same temperature, as in the more northern country of Parma, &c.

I am Sir, your obdt. serv't.

T. PICKERING.

John S. Skinner, Esq.

FOR THE AMERICAN FARMER.

Columbia, S. C. Jan. 22d. 1820.

Mr. Skinner:

The various and very interesting articles on the grape vine, &c. which have appeared lately in your valuable publication the American Farmer, will, no doubt, open the eyes of many gentlemen in the United States, and particularly the southern ones, on this very profitable branch of agriculture. Many difficulties in the cultivation of the vines have certainly occurred, which have deterred many persons from the prosecution of experiments they had begun, and some are not wanting who positively affirm that the grape vine can never be cultivated with success in this country. This plant requires a very particular management, and I have no doubt that the repeated failures ought to be attributed to the want of skill in those who have attempted its cultivation. We are also told that several Europeans, who in their own countries had cultivated the vine with success, failed here in the attempt. I am ready to admit the truth of this, but it must be observed that differences in the soils and climate, and other circumstances which pertain to a new country like this, require not only the skill of other countries, but also judgment to investigate the causes of failure, and adapt the mode of culture to the particularities of the country in which it is to be carried on. It also requires some considerable degree of acumen, to discriminate what are the fundamental principles relative to the cultivation of that plant, and which ought to serve as a basis in the culture, wherever it is attempted, from mere local practices, which, though perhaps good where they are pursued, arose from particular circumstances in the soil, climate, &c. It is most undoubtedly true that every district of country in Europe, and, no doubt elsewhere, has something different in their mode of treating the vine. This accounts for the great diversity in the accounts we have in books on the subject, as to the cultivation of the vine. All these methods may be correct for particular circumstances; but must be very wide of a plan for universal practice. Such a plan I do not hope ever to see; we can only hope to have a few leading principles which may serve as a basis for all; but the superstructure may be in many instances

widely different. If our government, or some of our patriotic agricultural societies, would send a proper person to Europe for the purpose of inquiring into the different modes of cultivating the vine in that country, no doubt from the great mass of information thus collected, a very judicious person might frame a tolerable system, somewhat general in its application, and showing causes for such deviations from this or that practice, that would most probably lead to success.

It is unnecessary here to show the very many and great advantages, that would result to this country from the culture of this invaluable plant. They are innumerable in a political, commercial and moral point of view. I say moral, because it is acknowledged, that the vice of drunkenness is much less frequent in wine countries, than in others where the use of spirits is resorted to. We must confess that it is a vice that defaces horribly the fair features of this country. I leave, however, this subject to abler pens. Would to God that men of talents would undertake to represent this in a proper light.

Notwithstanding the difficulties we have here to encounter in our experiments, we ought to persevere, and, no doubt, some of us will succeed, and will communicate to the public the results of their experience.

This is the season when preparations for planting are made, and I hope I will not be thought presumptuous, if I give an account of an experiment which I made last year, and which succeeded fully to my satisfaction.

On looking in the 3d vol. of the Memoirs of the Philadelphia Society for promoting Agriculture, 1st page, I saw a very interesting article signed T. Matlack, giving an account of a speedy mode of propagating the grape vine. It is thus: "Take a single joint of the vine you choose, cut it off at half an inch above the eye, cover each end with a sticking plaster of any kind, and set it in a pot of garden mould: the eye of the cutting must be covered with earth, and then watered to settle the ground; after this lay half an inch of horse dung on the surface to keep it from becoming dry and hard. Place your pot in your hot bed, etc. If it be inquired why a single eye is recommended, rather than a cutting of sixteen inches long, it is replied, that the roots shooting from a single eye, are exclusively from itself, are much the strongest and strike more directly downward; the shoot from it has less pith in it, the wood is firmer and shorter jointed, and comes sooner into full bearing; and it appears to be a much more healthy vine. And to these advantages may be truly added, that a thousand plants fit to set out may be raised from the single eye with less labour and within less space, than a hundred plants can be raised from long cuttings, which have not, that I know of, one single advantage in their favour; and in a new country it is of no small consideration, that the same cutting will produce five times the number of plants," etc.

Now in following Mr. Matlack's directions the most enormous number of pots required renders his plan impracticable. I have therefore tried to do without them, as in the following concise account. I cut my vine without having much regard to having only about half an inch above the bud, but cut them about half

way between two of them, except when the joint was very short, I left it rather longer below the bud than above it. I then made a mixture of about two parts of resin and one part of beeswax, and when they were melted and mixed, I dipt both ends of my cuttings into it which perfectly closed them. I then made choice of land somewhat moist, and after having prepared it well, laid my cuttings an inch deep, about ten inches apart, in rows three feet from each other. I then, according to the direction given by Mr. Matlack, strewed a little horse dung on the rows, and let them remain so till the weather began to be warm and dry. In South Carolina the spring is generally very dry, and at this time if great care is not taken of cuttings of every kind, the drought will surely dry up the young and tender roots of any cutting. To prevent this I covered the rows with moss, which had the desired effect, and my cuttings grew remarkably well. They attained in the course of the summer the height of three or four feet, and when I took them up about ten days since to transplant them where they are to remain, I was surprised to see what beautiful roots they had. I was so well pleased with this first trial, that I am now preparing a considerable quantity of cuttings in the same way. With respect to Mr. Matlack's mode of pruning, it appears to me very good, and according to principles that may be correct, but I have not tested it. All I can say of this subject is, that of all the Europeans I have seen that understood the management of vines, not one pays the smallest attention to cutting only above a clasper, and they generally leave for one shoot of four or five buds, one below it with only one or two buds, at most, which they expect will give them five shoots for the next year's pruning. The buds here left are of course below the claspers.

I beg you will look upon this as merely an exhibition of my desire to throw in my mite of information; but if it be not worthy of publication, I do not object to your throwing it into the fire. I am, Sir, &c.

N. H.

FOR THE AMERICAN FARMER.

ROTATION OF CROPS.

In the paper of 21st January, "a new rotation of crops" is proposed to the consideration of Agriculturists, on which the observations of Farmers are invited by the Editor.

It is not wholly new, but is a good course of cropping, as it proceeds upon the principles of an annual change of productions, autumnal ploughing, manuring, with cleaning crops and seeding clover.

But it seems rather too short a rotation, of 4 years, making as many shifts with 2 grain crops and one of clover only in that time.

It appears better to allow 2 years to clover, which perfects that plant, affords more grass or hay, refreshes the ground and saves ploughing. This will make the rotation consist of 5 shifts and the course of 5 years with the same species of crops.

But perhaps it is preferable to exclude turnips from the field at the same time with potatoes. &c. on account of the late coming in of that crop:

and rather allot them a separate piece of ground of the extent suited to the views of the Farmer, which may remain till spring,—While the potato ground after taking up the crop, may be laid down in wheat or something else, which will cover the land in winter, protecting it from the drying sweeping winds, and furnishing an intermediate crop of grass, (as timothy) or tares and vetches, to be taken off next summer in time for wheat.

This course however, would displace the corn crop, as it stands in the "new rotation."—But if the fields are of the size common with us, they will be larger than most farmers would choose to fill with potatoes; and as the field is supposed to be manured, the corn may come in with the potatoes instead of turnips, as the ground can be cleared of both in time to sow any winter growing crop.

To exemplify what is now proposed, let the following rotation and division be considered. Supposing the ground well broke up in autumn harrowed and manured over in the spring, which is generally preferred to spreading it in the fall.

1st. Potatoes and corn.—Taken up in October and then seeded with,

2nd. Wheat.

3rd. Timothy and clover.—Sown after ploughing in the wheat stubble.*

4th. Do.

5th. Do.

Then potatoes and corn as at first.

Or—1st. Corn and potatoes.—Manured, taken up in October and then seeding with,

2nd. Timothy and clover.

3rd. Do.

4th. Do.

5th. Wheat.—Followed as before with timothy, &c.—or with buck wheat to prevent the weeds, which generally follow the wheat crop; and thus, if required, the ground is open for spring seeding.

A piece of ground should be reserved for turnips, pumpkins, cabbages, &c. that they may not break in upon the field course. And if the practice is adopted of cutting and feeding the clover green in the yard and stables to the stock; another piece of ground should be kept as a pasture in which they may walk and graze two or three hours a day.

This course would naturally divide a farm into 6 fields and appropriate it thus.

1 fifth in corn and potatoes.

1 — in wheat.

3 — in mowable grass.

A field of convenient size for turnips, cabbage and a division of pasture.

One lot of grass may be cut green and carried to the sheds and stables, during the summer.—Two for hay; which will furnish a considerable stock winter and summer, aided by the turnips, straw and potatoes.

* Quere by the Editor would not the timothy thus unprotected, be injured by the frost? and would not oats, being of quick growth if sowed with the timothy spring up and falling again under the influence of hard frosts, prove an effectual covering and protection to the timothy through the winter, without offering any interruption to its growth in the spring?

This arrangement has in view, to provide the necessary food for cattle and horses, as well as to support the strength and condition of the land.

It may be that many farms have permanent meadows, to which they trust for winter fodder; pasturing the fields not in tillage during summer. But all have not this resource and must provide other means; of which none is perceived better than clover fields, with roots, &c. Nor need their aid be disregarded in a reliance upon any meadows, for the maintenance of a great stock and improvement of arable land.

A considerable point is attended to in the rotation communicated; which is, that manure is to be laid upon ground open and to be ploughed in. This is much better than to lay it on the top of crops, where it is dried and dissipated by sun and wind. It is also followed by crops, as potatoes, corn, &c. whose necessary cultivation will destroy the weeds as they are brought up by the manure and stirring, and leave the ground cleaner for either grain or grass.

Communicated for publication in the American Farmer.

By J. DOZIER, Esq. Corresponding Sec'y.

Constitution of the Agricultural Society of Williamsburgh, S. C.

We the Subscribers, in order to improve agriculture and rural economy, do hereby bind ourselves into a society. And for its government adopt the following constitution:

Article 1. This society shall be stiled the Agricultural Society of Williamsburgh.

Art. 2. The object of this society shall be to improve the state of agriculture, by meeting at some convenient place, (which shall be agreed on by a majority) for the purpose of communicating and exchanging sentiments freely on that subject. Also, to discover the most convenient and valuable manures—to designate the best method of their application to the different objects of culture, as well as to the different soils—to procure and improve the implements of husbandry in general—and to ascertain the best modes of reclaiming new lands, and of renewing the old—and whatever else may tend to improve agriculture, and rural economy in general.

Art. 3. Any person may become a member of this society, who will subscribe his name to this constitution, and pay into the hands of the Treasurer the sum of two dollars and fifty cents. And every member shall pay into the hands of the Treasurer annually, the sum of two dollars and fifty cents.

Art. 4. Each member shall be at liberty to withdraw from the society, whenever he shall think proper, first paying up all arrearages, if any be due.

Art. 5. The society shall meet semi-annually, on the third Saturday in February and November in each year. And special meetings may be called by the President, when he may deem it necessary for the benefit of the Society.

Art. 6. The society shall have a President and Vice-President, a Corresponding Secretary, a Recording Secretary and a Treasurer, to be elected by ballot at each annual meeting, by a majority of the members of the Society.

Art. 7. The Vice-President shall preside in the absence of the President; in the absence of the President and Vice-President, any member may be called to the chair by a majority of the members present.

Art. 8. A majority of the Society shall have power to fill all vacancies that may happen in the society.

Art. 9. All motions shall be addressed to the presiding officer, and by whom all decisions and votes of the society shall be declared.

Art. 10. The Recording Secretary and Treasurer shall exhibit their books to the society, at each semi-annual meeting for their examination, and shall obey such orders as they may receive from the society, relative to their respective duties.

Art. 11. It shall be the duty of the Corresponding Secretary to correspond with societies or individuals, on subjects relative to agriculture or domestic economy—to keep a book containing all such correspondence—and to file all communications he may receive touching his office—and to exhibit them at each regular meeting of the society.

Art. 12. It shall be held and considered as part of the duty of each member of this society, to communicate all improvements or discoveries he may make in agriculture from time to time.

Art. 13. This constitution may be altered, amended, or enlarged, whenever the society may think the circumstances of their association shall require it.

March 1st, 1819.

FOR THE AMERICAN FARMER.

AGRICULTURAL CHEMISTRY.—No. 3.

The remarks of my last will be sufficient to give a general idea of the chief characteristic earths. It usually happens that one of these earths will predominate in the natural land. The soil should therefore be described as *calcareous*, *aluminous* or *silicious*, these earths are seldom found pure in large bodies, except the *silicious*, which is nearly so in sheer sand. The natural operations of chemical affinity, and the action of water, air, and gravity are continually operating to produce a mixture of these earths; there are also a thousand other materials contained in the general soil, the effect of whose operations on each other is always making approaches towards a more fertile mixture, and hence comes the degree of fertility, which is acquired under the old system of letting the land rest, a portion of the materials are again formed, which were before carried off by an injudicious mode of cultivation; these unwearied operations of nature seem to be ever preparing the surface of the globe for the hand of man; the rugged and silicious rocks of the Alleghany, crumble before the silent action of chemical affinity, they are separated and carried in smaller particles to the valleys, and in the lapse of time become the support of vegetation and the wealth of man.

The earths which have been already mentioned are often the recipients of acids, with which they form a variety of substances necessary for the support of vegetable life. Thus we find that lime is destructive to vegetable life, until com-

bined with an acid; it then acquires the most powerful fertilizing properties,—as is evinced by its combination with *sulphuric acid*, which forms it into *sulphate of lime*, or Plaster of Paris, and its combination with the *carbonic acid* which forms it into the *carbonate of lime*, or limestone.

The *carbonic acid* (in the earth) is usually found combined with lime, which has a natural attraction for it. This acid appears to be the great promoter of vegetable life, but like other acids, there can be no doubt, would be destructive to vegetable life, if it could be applied in a concentrated form; this, however the economy of nature has provided against, by giving it the natural form of gas, by which it is mixed with the atmosphere, whenever it is disengaged from the earth, and is again absorbed from the atmosphere by other substances which have an affinity for it.

In our researches into the various phenomena of the earth and its productions, our admiration is frequently claimed by observing the connexion and dependance of the vegetable on the animal kingdom, and, vice versa, of the animal on the vegetable. This dependance is in no case more wonderful than in the operations and functions of the leaves of vegetables. Man and animals generally, are continually consuming by respiration, the vital air, or oxygen of the atmosphere. The leaves of vegetables, by an action nearly the same, absorb the carbonic acid, which is destructive to animal life, and give out a supply of oxygen, which keeps up the necessary equilibrium of the atmosphere, by supplying the portion destroyed by animal life. The carbonic acid of the atmosphere may therefore be esteemed as the vital air of vegetable life, as it furnishes the same support and action to vegetable life, as the oxygen of the atmosphere does to animal.

The solid combinations of this acid, among which is the carbonate of lime, which I have briefly noticed under the article lime in my last number, furnish to vegetables their most favourite food. The base of this acid is carbon or charcoal, which is well known to be the greatest portion of vegetable matter. In my next I shall proceed to the consideration of the sulphuric acid, and consequently its combinations, which will introduce the interesting article of sulphate of lime or gypsum.

A. B. M.

NOTE.—In the printing of my last communication, I observe some omissions, in treating of the article *alumine*, the subject should read thus:

Alumine or clay is the next in importance for the formation of good soils. Clay appears to possess but little chymical action in soils; its properties are rather mechanical; its extraordinary power of retaining water is happily provided by nature, to counteract the evaporating power of the calcarious earths. *Marls* consist of a mixture of these two great earths, which is the first approach towards a good soil.

To the Editor of the American Farmer.

MR. SKINNER,

A writer for your paper of the 7th ult. over the signature of Silvanus, has offered excellent advice for curing Bacon, and insists that the hogs

for this purpose must be corn-fed. How long must they be so fed, is the question?

Experience has shown, that it requires but a very short time; to entirely change the flavour and texture of all kinds of flesh. In the year 1770, I resided in New Jersey, where it was the custom to take great numbers of wild pigeons in spring nets, by the assistance of decoy pigeons, prepared for the purpose. The flesh of these birds, when first taken, is always very dark, and most generally tough. I have seen more than 300 of them confined, and fed in a large corn-house, and in one week, their flesh has not only become tender, but as white as a well fed chicken.

In 1784, I promised to present to a brother just married, a prime beef towards his winter stores,—I had a fine steer and a spayed Heifer, in a large wheat field, abounding with wild garlic; my brother named a day to send for his beef, and three days previous, we killed the Heifer, which although extremely fat, was to my great disappointment so thoroughly tainted with garlic, even to the marrow in the bones, that my house servants refused to eat it.—A bad prospect for my brother, whose wagon came the fourth day, and in despair I killed his beef, which was beautiful to the eye. I did not at the time pay much attention to a remark of his feeder, who observed that the steer had not eat any thing since the heifer was killed, my trouble was, the certainty of my brother's disappointment, but to my great joy, I soon received his letter of thanks saying, that a more juicy, tender, and fine flavoured beef, could not be.

Take two lambs of equal age from a garlic pasture, kill one immediately, and the flesh will be so tainted with the garlic, that no person of tolerable taste can eat it; keep the second from all food for one night or ten hours, and there will not be the slightest garlic taste. It is well known that cattle fed upon oil cake, cannot be immediately killed; but if kept from this food for two or three days, the oily taste is removed.

The foregoing facts are known to every experienced farmer, and they have convinced me, that hogs fed upon corn for two weeks, are much better than two months, for the plain reason that the flesh is equally good, and the expense is less.

Hogs as generally managed, are not only the most troublesome, but the most costly flesh we consume, and I have for many years been in pursuit of a plan to lighten the cost of their flesh, which is so absolutely necessary for the establishment of every Marylander. I flatter myself that I now see my way clear, for after two years trial, I am well satisfied, that the use of Cymbkins, Pumpkins, Ruta Baga and Clover, will enable me to send more corn to market, and with two weeks feeding upon that precious grain, my bacon will not yield to that of any person. No branch of rural economy requires more attention than feeding our various kind of stock. Our northern friends laugh and say, that in Maryland the hogs eat all our corn, and our negroes eat all our hogs. This is too true to be denied, and if my mite can in your opinion be of any use to the public, it is at your service.

As early as the season will admit, I prepare ground for Cymbkins, or squashes (*cucurbita verucosa*)—Rich land is best for all purposes,

but in this case, it is the first object to choose a place convenient to your hogs range. After ploughing and preparing the ground in the best manner, lay it off by a single furrow, four feet each way, and at the intersection, manure highly with well prepared manure, mixing it well with the soil, by spade or hoe. Upon this ground so prepared, plant Cymbkins (and the bunch kind I think best,) in every other row and hill, which will give to you at eight feet apart each way, about 680 hills to the acre. After planting the cymbkins, proceed to plant corn in the rows running north and south, that is only in one direction, between every row of cymbkins, and which being eight by four apart, will give you about 1361 hills of corn to the acre. It is unnecessary to remind the careful farmer, that the most scrupulous attention should be paid to this ground, while the vines are young, for after they begin to fruit and run, nothing can be done, except to pull by hand, the strong high weeds.—When the fruit appears, be careful to mark for future seed, such as you wish to propagate, for it is desirable to have early fruit.

The drought of last summer will not be soon forgot, and yet from less than an acre of unfavourable ground, I kept in high condition more than 60 head of hogs of all ages (sucklings excepted;) they had not any grain, and but little grass—it was our rule to take a certain number of rows every day, so that there was an interval of five days, and all fruit as large as a man's fist was pulled. It would sometimes happen, that fruit was neglected until it became hard but not dry, in this case, the feeder cracked them upon his cart wheel.—A careful and steady person should be appointed to pull, one who will neither neglect the fruit, or read upon the vines, for if well managed they will continue bearing until your pumpions are ready, and these will carry you on to the fortnight before the intended day of killing.

I claim no merit from the Cymbkin culture, it justly belongs to Tench Tilghman, Esq. of Talbot, and other gentlemen of that country, but believe me, that while I continue to raise my own pork, I never will omit the cymbkin culture. Let us however not forget the pompon as an able, and almost necessary auxiliary, and of which there is many varieties; the long yellow is I think, for many reasons the best. In 1818 my cymbkin patch was small, and as my object was not only to have fat pork but to save corn, I began early with the pompons; yet hogs could not be fatter, and my stock of old hams, can yet testify the quality of the meat. Yet cymbkins and pompons are not alone a sufficient substitute for corn; some food is necessary to carry you through the winter and spring, until your clover and cymbkins are ready. The Ruta Baga is an excellent vegetable, which will supply your want. We now know that they are infinitely more nutritious than the common turnip, that they are sufficient hardy to remain in the ground through the winter, and yet better, if buried in small heaps in a well shaded northern aspect. They will be found in high preservation to July.

Clover is less injured by hogs than by any other stock, by sheep the most, and hogs after a few days will not root it up; but it is desirable that every farm should be provided with a hog range well enclosed, uniting wood land for acorns

and shade, bottom land for water, rooting and wallowing; and contiguity to clover. Ten hogs will not injure the growth of timber, as much as one cow. The hog indeed eats all the acorns he touches, but in his rootings he buries great numbers to a secure depth: the cow not only nips, and of course kills all the young sprouts of nuts, which she perseveringly hunts after, but she browses upon and tears down young limbs, and rubs and twists young sprouts from stumps.

If I have extended my remarks beyond a mere recommendation of the cymbkin culture, and with a view to save grain, which is always a cash article; it is also from a wish to encourage persons who reside upon poor lands adjoining extensive woodranches, to turn their attention to rearing hogs upon a large scale.

For the cymbkin, pompon, and Ruta Baga, but little land is necessary, and for the two first articles, but little manure. Clover is certainly of great service, but if there is plenty of the other vegetables it may safely be dispensed with. I would give you my opinion of the quantity of ground necessary for twenty hogs, but fear I have already trespassed on your time.

I must however observe, that instead of washing my bacon with warm water previous to hanging it, I have experienced the best effects from washing with a strong lie, made from clean hickory ashes.

I am respectfully, yours &c.

A Subscriber.

For the American Farmer.

MR. SKINNER,

I read in your paper some time ago, a "receipt to make currant wine," and I am satisfied that a pleasant cordial can be made from the currant, as directed; but I have never tasted any currant wine that could not be distinguished from the juice of the grape. The currant is not cultivated in sufficient quantity, to produce a general supply of wine, even if it is better, or cheaper than the imported wines. I have also seen in your last Farmer, a receipt for making what the writer calls Tokay, and although I have not had an opportunity of making a comparison between cider wine of eight years, and tokay of fifty years old, I am well assured that his composition will make a fine wine.

I have, for a long time past, made all the wine I have used in my family, and sometimes have it very fine, as might be proven by many of my friends, who have partaken of it, and particularly by Gr. Wt., who has named it Pomeleo, and as soon as the navigation opens, I will forward you a sample of a cask now on tap, which I think you will approve of. I do not claim the merit of the discovery; I took the hint from a worthy agriculturist, Mr. Cooper of New Jersey, but I think I improved it. I could not succeed to imitate the juice of the grape, by using peach or apple brandy, although it produced a pleasant cordial, but the French brandy exceeded my expectations.

To a barrel of cider, made of sound selected fruit, add at the press, or soon after it is made, two gallons pure honey, and place your cider in a proper place to ferment; after the fermentation ceases rack it off into a clean cask, and add

two gallons of French Brandy; in the succeeding autumn, fine it as wines are generally managed, and it will soon be fit for use.—It ripens much faster than grape wines. My practice has been to make my cider of the Carthouse or Pen-nock apple, (which I think are best) in November; let it stand until February, then rack it off, and add the French brandy, and towards the fall, fine it with the whites off eggs and new milk; whether fining it earlier would be an advantage or not, I cannot say, but I always found it was more readily fined by the ingredients I used in the fall, than in the spring, when it was new, and I never had any clear enough to bottle in March.

A.

FOR THE AMERICAN FARMER.

Brief directions how to make Good Cider.

Gather your apples late, lay them in piles to sweat, carefully pick out those which are rotten, and cut off the rotten parts from those which are partly affected. Grind and press them, and strain the juice by putting a small whiff of straw into the funnel. Let your casks be large, place them in a warm cellar, fill them and leave the bung out, reserving one of them empty. In a few days they will begin to ferment, keep filling them occasionally, that the froth and pumice may work out at the bung hole. When it has ceased working, draw off the cider of one cask, from a spile a few inches from the bottom to avoid the sediment; put the contents into the empty cask, clean the cask, fill it from the next, and so on, until all is drawn off, when a new fermentation will take place, and repeat this until the cider ceases to ferment. Then take four fingers of fish glue or isinglass, and boil it in one gallon of clear cider for each hogshead, pour it into the bung, and stir it well, lay on the bung without stopping it close, and let it remain till perfectly clear, which will be in about a fortnight; after which it may be bottled off, drawn into small casks, or permitted to remain for use. A mixture of apples makes good cider. The best Marcus Hook cider is made of the Carthouse apple; and cider made by these rules will be as clear and as brisk as Champagne.

PIPPIN.

N. B. One rotten apple is sufficient to give an unpleasant taste to a hogshead of cider.

Translated from a French Journal for the city of Washington Gazette.

Importation into France of the Goats Tibettu, Schky, called Angola Goats.

On the 17th of August the king deigned to receive at a private audience, the Chevalier Amedee Jaubert, master of requests, lately come back from Asia, and to propose to him, with that benevolence his majesty always grants to distinguished men and for useful things, several questions, both relating to the state of the countries in which he has travelled, during the course of divers preceding voyages, and to the actual results of the distant journey he has just performed.

His majesty has remarked with pleasure on the details this traveller has had the honour to give him, and the public will not learn without interest, that the importation of the goats of Thibet, effected under the auspices of the government, by Messrs Ternaux and Jaubert, continues to promise the happiest success. The number of these valuable animals, now

in the best state of health, amounts to near 450, not including a score of rams and ewes of the breed called Astrakhan.

The flock is divided in three divisions; the first amounting to 144 goats, has been placed in the royal sheepfold of Perpignan; the second, of 204 in number, has been committed to the enlightened care and patriotism of Mr. Pierre Aguilon, a proprietor of woodlands, situated on the high mountains which surround the bay of Toulon to the north. The department of the Bouches-du-Rhone possesses the third.

The identity of these animals, with those the wool of which is used in the manufacturing of the finest Cachemere shawls, cannot be any longer called in question. This wool is so white, soft, fine and silky, that seeing it, is sufficient to be convinced, that nothing more perfect has ever existed. On another side, the reports of all the European travellers, who went as far as the heads of the Ganges and Thibet, the unanimous and authentic declarations of the eastern merchants from whom inquiries were made, as well in Constantinople as in other places, and more than that the name given to the wool and to the goats of Cachemere, in the language of the errant tribes, among which Mr. Jaubert has found them—all these circumstances together contribute to dispel the possibility of a reasonable doubt on the origin of the animals lately imported.

It was undoubtedly to be desired, that one of the naturalists and writers on agriculture that France can boast of, should take upon himself the care to determine the true characters of the new breed, to make known in all their extent, the precautions which have been taken in order to ensure the preservation of it, and to point out the probable results of the effected importation. This desire will be fulfilled by a short notice, that one of our most distinguished, learned men, intends to publish on that subject.

The government of the king as well as all France, are indebted to the peace, for the protection that Mr. Jaubert has experienced throughout the states of his majesty the Emperor of Russia. In consequence of the orders given by his Imperial majesty, on the recommendations of the duke de Richelieu, then prime minister, Mr. Jaubert has received from all the public functionaries, generals &c. in the service of the Emperor, the most cordial welcome; that friendly reception has not been confined to Europe; Mr. Jaubert has experienced help and protection from the advices and credit of a great number of Persian, Boukhar and Armenian merchants, especially, who effectually assisted him in an enterprise so much the more interesting in their eyes, as they easily perceived the project had been suggested by a disinterested mind, actuated by zeal for the prosperity of his country; so powerful on the heart of man, and so natural are those feelings which command his esteem for all that is noble and generous.

The reputation that Mr. Ternaux enjoys among all the merchants and manufacturers of the world, the esteem which one cannot refuse to the zeal of so distinguished a learned man as Mr. Jaubert, so well known by his courageous labours and his knowledge of the eastern languages, manners, and diplomacy, have not a little contributed to the success of the enterprise. The share which these acquirements have had in its success must be a powerful encouragement, principally to those persons who apply themselves to the study of the several dialects in use among nations of the east, a study so important for the maintenance and increase of our commercial relations with Asia, that with the acquaintance of the Tartar and Persian languages for instance, one may be understood, not only in the Peninsula of India, but as far as Irkoutchk and Kiahta upon the frontiers of China.

Furthermore it is flattering, in noticing this honourable competition, to meditate on the prospect of the happy results that such simultaneous efforts can give to civilization in general, and in observing the degree of perfection which mechanical arts have attained

in our country, to think that as much as the French nation was worthy of the glorious success which rewarded her valour in war, in the same degree is she capable of reaping the advantages of peace.

Mr. Jaubert arrived in Paris a few days ago; he brings along with him not only magnificent patterns of wool, he himself procured from the flock, but several fragments of antiquities, models, &c. equally destined to add to the wonderful improvements of our national industry.

For his part Mr. Ternaux has shawls manufactured from the wool of the said flock, and some from the fleece of the animals, that died during the passage. The wool of the latter has been gathered from the fleeces in the presence of a jury called for by his excellency the minister of the interior, and composed of Count Chaptal, Peer of France, President of the Society of Encouragement, the sub-prefect of St. Dennis, the Mayor of St. Ouen, Mr. Christian, Director of the Conservatory of arts and mechanics, and Mr. Bellanger, manufacturer in Paris.

The examination made by that jury testifies that this wool is equal, if not superior to that imported by the French commerce from Asia, and the public will be able to compare the fineness of the shawls that are in fabrication, and which will be exposed at the next exhibition with those that are now selling.

A particular circumstance has occurred to give a new security of the genuineness of the race of the animals just imported. His excellency, the minister of the Interior, having been informed, that some animals of the same race were in England, has ordered several to be brought, and among them a ram coming from the Gardens of the English East India Company at Calcutta, who is descended from a goat of Thibet; this animal is absolutely of the same species of the goats imported by Mr. Jaubert. But whether he belongs to a variety of this species or has degenerated in consequence of the hot climate of Bengal, it is certain that he is inferior to the animal, which the French flock is composed of: it is just so with the finest of the same race which came likewise from England, and which the government has ordered to be sent to Alfort, where they are to be reared. The wool of these is very fine, but of a brownish colour.

We shall not conclude our observations without paying to the duke of Richelieu, the tribute of homage which is his due, and the share of gratitude, that belongs to him for this valuable acquisition. It is through that minister, Mr. Ternaux found protection and encouragement; it is he who has given to this worthy manufacturer the advice and recommendations which have facilitated his enterprise, and without which it would have been impossible to attempt it. This benefit is a new service rendered to France by the statesman to whom the national gratitude has already decreed by the three legislative powers a reward due to his signal services.

For the American Farmer.

MR. EDITOR,

I believe communications have been sent to you from almost every section of the state; but as well as I recollect, you have received none from this county, Somerset, Eastern Shore of Maryland. You will therefore indulge one of your subscribers in making a few remarks on the subject.

Being engaged in the occupation of agriculture, for some time past, and having felt an earnest desire for its promotion, it has been a source of the deepest regret to have witnessed the wretched system pursued in this county—which, instead of meliorating the soil and rendering it more productive, has been fully calculated to destroy every fertilizing quality; and, if obstinately persisted in, must reduce its followers to poverty.

The soil generally in the lower counties of the Eastern shore of this state, was originally good; and, had even a moderate degree of care been paid to it, or some return been made for its bounties, it might still have been in a prosperous state. But owing to the miserable manner of cultivating, it is now in places, reduced almost to barrenness. It has been usual with some persons to put their lands in Indian corn every year or every other year; with others, to observe the three shift-system, until the soil was completely exhausted—and the land was then turned out. Another piece was cleared, which being treated in the same way, met the same fate. Experience has at length proved that this plan must not be followed much further. For, where now do you see those beautiful forests of oak and pine that once covered the earth? They have disappeared—and if the same ruinous plan of clearing and then destroying the soil is pursued, in the course of a few years, we shall really need the timber that has been so shamefully wasted.

I am happy to say though, that a spirit for improvement has arisen. Farmers have begun to be more active in collecting the materials for manure—they resort to the woods for leaves and decayed vegetable matter, which they cast into the farm-yard—bring their corn stalks in and litter their cattle upon them; and some cart in ditch bank, or other earth, which being united with the animal and vegetable substances in the farm-yard, forms a valuable compost.

Judging from some Addresses to Agricultural Societies, we should be led to believe that Agriculture was at its lowest ebb—at the extremest point of degradation on the Eastern shore. It is true, as I before observed, that the manner of cultivating the soil in this part of the shore, has been most ruinous; yet even here, some spirited and intelligent farmers, and some beautiful and well cultivated farms can be found.

And as our resources of manure are most abundant, I look forward with certainty to a period not far distant, when we too may be noticed among agricultural people. The means of improvement are within our own hands; we only require our minds to be directed to the best and most expeditious mode of fertilizing the soil, and energy enough to pursue it. Manuring, and fall or winter ploughing are objects of the highest consideration. Nay, without a proper attention to these things, we need not expect our lands to be restored to their original fertility.

The establishment of an agricultural Society in our county, would be productive of most useful consequences. Such a thing has been talked of for some time past, and I hope it may be carried into operation. The good effects of such an association must be obvious to every intelligent man.

In conclusion, permit me to say, that I know of no circumstance so well calculated to promote the interest of agriculture in our country, as the general circulation of your valuable paper.—That you may succeed in your laudable undertaking is the most fervent wish of

Your obedient servant.

J. S. SKINNER.

*Printed every Friday,
For John S. Skinner.*

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

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NUM. 47.

AGRICULTURE.

AN ADDRESS TO THE

Virginia Agricultural Society,
OF FREDERICKSBURG.

Delivered at their stated Meeting in May, 1819.

James M. Garnett, Esq. President of said Society.

(Concluded.)

It may possibly appear somewhat extrajudicial to introduce such matters as the extravagance, folly, and confusion of the prevailing modes in dress, equipage, and living, into an address to an Agricultural Society. But I cannot help viewing them as so directly at war with our best interests, that unless we can arrest their progress in some degree, it will be to little purpose, that we either plough, sow, or reap. Lest, however, I should be supposed to object to them merely from parsimonious considerations, I will take the liberty to remark, that I consider one of the strongest arguments against them, next to their immoral tendency, is, that they are about to banish from the land the small remnant of that ancient hospitality for which our native land is used to be so pre-eminently distinguished. So long as the true mode and best style of entertaining friends and acquaintance was believed to consist in hearty welcome, and an abundance of the substantial comforts of eating and drinking—principally the produce of our own farms, no difficulty was found in maintaining social intercourse in all its most agreeable forms; but when once the notion grew into fashion, that a display of great style was the chief object of exchanging visits; that the four corners of the world were to be put in requisition for the means; that no food could be eat in comfort, but out of China or plate; wine drank with pleasure, but from the most costly glass; no company received genteelly, unless in new dresses of silk, and "extra superfine broad cloths;" nor invited, under a Bank notice of three days, at least; (the ancient fashion of imprudent invitations at least, being entirely exploded as rude and vulgar;) then that period we may date a regular decline of everything I like our good, old, homespun, cordial hospitality. A fashionable lady would now think herself utterly undone to be caught visiting her neighbour in one of our antique double chairs, or on horseback, mounted behind some near relation, with litter Master or, worse, the heir apparent and best hopes of the family, before him. And a fashionable gentleman would view with unutterable disgust, the old, but the frequent custom of husband and wife going a junketing on the horse or "beast," as in those days it was more commonly called. 'Tis certainly true, that a thousand *à la Barouche* will now take them along much more stylishly," and with far greater comfort in the transportation, than the former compact mode of allowing one horse to two or three persons. It is not to be denied that I object; nor altogether to that certain degree of cost in equipment; but I insist, that the last should always be well regulated, and duly proportioned to the income; and that whatever we may choose to call improvement, should have some higher basis than such appellation, than its inordinate, and often very inconvenient expense. If these silly, and indeed criminal excesses, have arisen from a disposition to confound all those distinctions which flow from inequalities of talent, information and property; it ought to be recollected, that the first can never be improved, because they result from natural causes beyond human control; whilst the last can never be en-

terly concealed but from strangers, by any effort which compared too by many advantages and disadvantages the ingenuity of vanity can contrive. In all competition to commend it, which can be said of no other trade, of extravagance, the man who happens to have a profession or calling whatever; never let us exchange double our wealth, and only an equal stock of vanity—it for another, merely because it will not enable us to support a style of living such as the individuals of no other class, taken as a whole, can possibly sustain and prosper. No gentlemen; rather follow for a while the late prevailing fashion of the Banks, however inconvenient. Can it—can it a few outgoings in one direction, and give them another. Live a little less for other people's eyes (as Dr. Franklin would say) and exclude either comforts, social amusements, or even certain luxuries from some share in the expenditure of our surplus revenue, when we have any; but it may be remarked, that a transfer of superfluous cash from a cordial and hospitable dispensation of abundant and palatable viands, not exceeding our means, accompanied by the pleasures of free converse and festive gaiety, which was the old style, (a few cases excepted) to costly travelling and table equipages; and its heartless, troublesome ceremonial, all far surpassing individual income, which seems to me too generally the style of the present day, is but a miserable exchange of substantial, rational comforts, for empty and sickening show. But the fact is, that our habits of increased prodigality are not displayed in the foregoing enumeration alone, and among those only, who by the way of pre-eminence are called "the fashionable world." They show themselves in every thing, and affect in some degree all orders of men; goading into this race of folly, thousands of most reluctant and awkward imitators, who have this additional misery in their failures, (as fail they must) that their consciences incessantly tell them they are wrong. We cannot even shoot a partridge or a woodcock in the present times, without an outfit, at least twenty times as great as was once thought necessary; and such as in "the olden time" would have amply supplied our wives and daughters with their customary habiliments of scarlet cloaks, calimanco shoes, and stuff petticoats, for half a dozen years together. The sportsman who then treated him self to a ten pistole gun was marked down as an idle, extravagant "dog," hastening on in the high road to ruin; whilst in the present day, one or two hundred dollars is quite a common price for the same article. But not to dwell longer on particulars, which might be extended to almost a countless catalogue of patented and unpatented toys for children of all ages—it may truly be said, that the expenses of agriculturists have increased more than in geometrical ratio, whilst agricultural profits, if augmented at all, have been so, only in arithmetical proportion; and like Bob Acres's countenance, are so constantly "oozing out at the palms of our hands; for numberless luxuries indulged in, till they are called necessities; that nothing, or next to nothing, is left for the improvement of our farms. Ought we then to complain, that little is made by agriculture? Have we any just cause to charge that upon the nature of our profession, which is neither a necessary adjunct, nor any way essential to its successful prosecution? No, if we must all live like Nabobs, without any avoidable reference to disparities of fortune and condition; but to the utmost limit of our means, and as many strides beyond them as our credit will let us go; if the object of our emulation be—not who shall make the best crops, and exhibit the most highly improved farms, but who shall display most taste and dashing style in expending the proceeds—*be it so*. But for the honour of our cause, never let us seek consolation for empty purses in accusing the earth of sterility, the markets of inadequate encouragement, or the heavens of partiality in the salutary dispensation of the dew and showers. Never let us abandon or despair of a profession which is capable of yielding a clear profit of ten or twelve per cent. upon the active capital employed, ac-

companied too by many advantages and disadvantages to the ingenuity of vanity can contrive. In all competition to commend it, which can be said of no other trade, of extravagance, the man who happens to have a profession or calling whatever; never let us exchange double our wealth, and only an equal stock of vanity—it for another, merely because it will not enable us to support a style of living such as the individuals of no other class, taken as a whole, can possibly sustain and prosper. No gentlemen; rather follow for a while the late prevailing fashion of the Banks, however inconvenient. Can it—can it a few outgoings in one direction, and give them another. Live a little less for other people's eyes (as Dr. Franklin would say) and exclude either comforts, social amusements, or even certain luxuries from some share in the expenditure of our surplus revenue, when we have any; but it may be remarked, that a transfer of superfluous cash from a cordial and hospitable dispensation of abundant and palatable viands, not exceeding our means, accompanied by the pleasures of free converse and festive gaiety, which was the old style, (a few cases excepted) to costly travelling and table equipages; and its heartless, troublesome ceremonial, all far surpassing individual income, which seems to me too generally the style of the present day, is but a miserable exchange of substantial, rational comforts, for empty and sickening show. But the fact is, that our habits of increased prodigality are not displayed in the foregoing enumeration alone, and among those only, who by the way of pre-eminence are called "the fashionable world." They show themselves in every thing, and affect in some degree all orders of men; goading into this race of folly, thousands of most reluctant and awkward imitators, who have this additional misery in their failures, (as fail they must) that their consciences incessantly tell them they are wrong. We cannot even shoot a partridge or a woodcock in the present times, without an outfit, at least twenty times as great as was once thought necessary; and such as in "the olden time" would have amply supplied our wives and daughters with their customary habiliments of scarlet cloaks, calimanco shoes, and stuff petticoats, for half a dozen years together. The sportsman who then treated him self to a ten pistole gun was marked down as an idle, extravagant "dog," hastening on in the high road to ruin; whilst in the present day, one or two hundred dollars is quite a common price for the same article. But not to dwell longer on particulars, which might be extended to almost a countless catalogue of patented and unpatented toys for children of all ages—it may truly be said, that the expenses of agriculturists have increased more than in geometrical ratio, whilst agricultural profits, if augmented at all, have been so, only in arithmetical proportion; and like Bob Acres's countenance, are so constantly "oozing out at the palms of our hands; for numberless luxuries indulged in, till they are called necessities; that nothing, or next to nothing, is left for the improvement of our farms. Ought we then to complain, that little is made by agriculture? Have we any just cause to charge that upon the nature of our profession, which is neither a necessary adjunct, nor any way essential to its successful prosecution? No, if we must all live like Nabobs, without any avoidable reference to disparities of fortune and condition; but to the utmost limit of our means, and as many strides beyond them as our credit will let us go; if the object of our emulation be—not who shall make the best crops, and exhibit the most highly improved farms, but who shall display most taste and dashing style in expending the proceeds—*be it so*. But for the honour of our cause, never let us seek consolation for empty purses in accusing the earth of sterility, the markets of inadequate encouragement, or the heavens of partiality in the salutary dispensation of the dew and showers. Never let us abandon or despair of a profession which is capable of yielding a clear profit of ten or twelve per cent. upon the active capital employed, ac-

"Tillage and pasturage may justly be considered (as Sully calls them) "the two breasts of the state." They may with equal truth be called, the two breasts of each individual agriculturist, from which he draws all his support, his vigour, and his wealth. Let him cherish them therefore with the most unremitting care, and assiduously pursue all attainable means to augment their productiveness. But to succeed completely in this, he must make himself master of the theory, as well as the practice of agriculture; for in spite of all the efforts of those who know little or nothing of books, to discredit their use, there is no truth more indisputably certain, than that, "Science (to use the words of Sir H. Davy) must be considered as the refinement of common sense, guided by experience, gradually substituting sound and rational principles, for vague, popular prejudice."

A constant progress in our knowledge of Rural Economy, is at all times necessary to agricultural success; but never more so, than when a sudden change from long continued foreign war to peace—a change which the great mass of mankind never consider with reference to its remote consequences, either on the parties, or on neutrals such as we were, has left us under the powerful dominion of numberless factitious wants, at the same time that it rapidly diminishes our ability to gratify them. The farmer who does not now begin to see the operation of this truth, must, to say the least of him, be a very thick skulled fellow; and he who neglects to profit by it, can be considered not far short of stark mad. But though I most earnestly recommend to you sedulously to cultivate both in yourselves, and in all over whom you can exercise any sort of influence, a steady, zealous and active spirit of improvement; let me also take the liberty of cautioning you against that indelicate and indelicate passion for experiment, without regard to expense, which is sometimes seen to animate and govern the exertions of young farmers. If there is any one spot-herm or maxim, which the wisdom of ages has collected for us, more applicable than another, as a general rule of conduct

for agriculturists—it is this; “*testina lente*,” make haste slowly; or in other words reflect deliberately and maturely upon all our plans, whether old or new; calculate accurately their advantages and disadvantages; never engage so far in experiments unsupported by any thing but probable conjectures, as to incur the hazard of any serious loss; although a small portion of our time and money should always be devoted to them; and let it be our constant aim to procure a steady advancement both in agricultural theory and practice by making so sure of each step in our progress, as to guard effectually against back-sliding—a practice not less pernicious in agriculture than in morals and religion.

Volumes of admonitory precepts and illustrations might be deduced from the above text; but I shall not tax either your patience, or your politeness further at present, than to conclude with an extract from Young’s, “*Farmer’s Calendar*”—a book too little read in our country, although justly entitled to high estimation. The quotation is from an excellent letter of advice addressed to a young agricultural friend; which although of a local nature in some respects, contains also many general recommendations, applicable to the cultivators of the soil in every country, and of every grade.

“With a small, but increasing family, you have taken possession of your estate, which, if I understand you clearly, is of the gross rental, including the lands in hand of about 600*l.* a year; and that the neat receipt, every outgoing paid, is 461*l.*: this will be your whole dependence, for it cannot be prudent to reckon upon any profit at present from the 180 acres of farm which your father occupied, and which you have in occupation.

“The best advice I can give you is, to consider with particular attention how very necessary a steady and unremitted economy, upon a well-matured system, is, for enabling you to live, and bring up a family, in the class of gentlemen, upon such an income; and to explain as well as I am able, how much, such a plan, will depend on your husbandry being rendered gradually so beneficial, as to make a material object to increase it as the several farms become vacant of which your estate consists; a prospect by no means admissible on any other principle than that of your making 180 acres yield an unquestioned profit before you make any more, and so proceeding with respect to every successive farm.

“And this observation, as well as all I shall make, ought to rest on your having a just idea of what such an income as 460*l.* will enable a family, in such times as these, to effect: for it is less, I doubt, than you conceive. You must remember the many instances of such estates in my knowledge, and, I believe, in your own, which have been dissipated by their owners (I might almost say without dissipation) by their not having a due sense of those increased expenses of living, not marked so much by the price, per pound, of necessities, as by the more luxurious and elegant ideas which have pervaded every class of the people; and which appear in building, fitting up, and furnishing houses; in gardens, table, equipage, dress, pleasures, education, &c. Nothing but a rigid prudence can keep a man in the class he was born in, with any estate that ranks with yours. If you think it possible to associate with men of 700*l.* 800*l.* or 1000*l.* a year, upon any thing like equal terms, you must either be ruined, or pay too dearly, through a month’s uncomfortable restrictions, for the pleasure (mixed with much trouble) of a day. For want of these reflections, hundreds have been ruined, without vices, without any particular extravagance, and merely by a general notion, that they could go on for the last ten or fifteen years as they did for as many preceding. But the fact is, that the increase of taxes, uniting with the increase of luxury, with money flowing in from very different sources than any enjoyed by country gentlemen of small estates, have doubled, and in many cases trebled the expense of living; so that, if these heavy burdens be not carefully provided for, in the first instance, distress, debts, and ruin succeed.

“Let me then most earnestly advise you, in the first year, to square all your expenses to only two thirds of your sure and certain income. You cannot

deduct less than 61*l.* for taxes not attaching to the land; there remain 400*l.*; two thirds of which are 266*l.*; on no account spend one shilling more.

“Now, you will observe, that this is directly the reverse of what we commonly see. The first year a young couple marry, they make an extra show; and the first year a man comes to his estate, he usually makes some addition to, or alteration in his house; or he pulls down walls, throws down new hedges, clears about him, and gets into a train of improvements, which it is possible he had been meditating before he came to it. Girt windows, awkward dark passages, windy floors, and a hundred other things, are nuisances; and then friends are ever ready with projects and advice—“nothing more palpable: the improvement speaks itself!” mighty well! But turn a deaf ear, though the expense be 51*l.* When the first year is over, and you have the third of your income, or 133*l.* in pocket, and not a debt upon earth, you may consider what is best to do with it; but to lay out a shilling before you know whether you will have it in a real surplus, is upon system, the conduct which has sent so many little estates the road, I hope yours will not travel. The observation is equally applicable to your agriculture; that is a very pleasant employment, and improvements and experiments are very pleasant also; but for one year, at least, go on as your father did, without variation; he was a prudent man, and did not lose; at least know by trial that you can go on without loss, before you listen to any proposals of improvement. But perhaps it will be said, how are you to live upon 261*l.*? Firmness and resolution will do any thing; and when the comfort of your whole life is at stake, I am sure they can never be more powerfully called for. You must proceed upon plan. Your own cloaths and Mrs.—’s, and your children’s, so much; servant’s wages, and all other payments, not for house keeping, so much. Deduct these from 261*l.* and divide the remainder by 52: it gives your weekly income. By paying ready money for every thing, you will know in seven days if you exceed, and how much, and then can regulate accordingly. Such a systematic method of going on has very little trouble in it, and it is positively safe, which no other way to be devised is. Of all other things, be careful to keep accurate accounts of your expenses, under every head, and of your farm, and let them be in effect, as well as theory, the basis of experience; they will prove so; but remember all is confusion and danger; when you create bills, for every thing depends on ready money transactions of every kind. A prudent man would live on a crust, and go in rags, rather than live upon any sort of tick; for, otherwise he lives at the rate of which he is ignorant; he spends, he knows not what; he is subject to imposition; he is in difficulties before he dreams of any; and his life becomes embittered, for want of a few grains of resolution at setting out.

“Another point is, to consider consumption as expense. You have found wine in your cellar, perhaps other things; if you take out a dozen, nay a bottle enter it as paid for; by this you will avoid an obvious fallacy. Put the money by itself it will be ready to replenish.

“Now mark the advantages of such a conduct; at the end of the year you will have 133*l.* cash in hand. You have had a year’s experience; you reflect on a very restricted, perhaps uncomfortable way of living; you may then consider whether it is better to go on so, and expend such a surplus in such improvements as you have observed to be most wanting, or whether it will be more advisable—to live better, and keep other things as you found them. You are master; you can do either: or you may mix the plans, live rather better, and improve a little; but with such an income, the likely result is, that you will find the expenses of living comfortably, will leave little for any thing else.

“One thing, however, there is, which ought never to be forgotten. You are a Christian, and I hope a good one, sufficiently to know, that the wants of your poor neighbours are a call, to which he only can attend who lives with economy. If you spend all on yourself and family, what can you do for others? And though your income be small, yet, comparatively, it is very great, and this is a demand which ought never to be waved. None can expect God’s blessing, who do not think of

this call upon their humanity in the arrangement of expenses.

“Let me further urge you most warmly to lay down a plan of expense, at all events, that leaves you some surplus at the end of the year. I do not think that any prudent man should regularly spend more than three fourths of his neat income; such a saving, not for the purposes of hoarding, or growing in any degree rich, is essential to his comfort. If he cannot attain one-fourth let it be one-sixth, or at least one-eighth; at all events let it be something; without something free at the year’s end, it is impossible he should ever be in tolerable comfort.

“I have heard a right reverend prelate, of great knowledge and ability, declare, that a country clergyman of 300*l.* a year, could not afford to drink wine; the assertion was received with some doubt, not by me, for I believe it is correct, and that calculation would prove it. Your free income of 400*l.* will admit of no excess in any thing, which is easily proved.—Suppose you allow 60*l.* for the dress of yourself and wife, and 20*l.* for that of your children, (being young;) wages of 2 maids and a boy 15*l.*; garden labour 10*l.*; necessary repairs of furniture, books, newspaper, stable sundries, garden ditto, &c. 15*l.* here are 120*l.*; remain 280*l.*; this is 5*l.* 8*s.* a week for house keeping, medical assistance, charity, and every unforeseen expense; and this with children that are young. There is further to be deducted that saving, which at all events is to be looked to in the first instance, be it but the eight shillings.

“Is it not evident, from this account, that such an income must be managed with an economy approaching privation in many articles, or distress must enter in conversation; an estate of 600*l.* a year is sometime talked of in a style that shows the world does not calculate. The gross income has no more to do in such accounts, than the income of the Great Mogul; bring it to the neat receipt, taxes, &c. paid, and then you will find ground for very different ideas. But these few items are sufficient to prove, that an estate of 600*l.* a year will not permit its owner to keep a footman, no carriage beyond a whiskey, without drawing on the farm in hand, or reducing house keeping to penury rather than economy. From all which it is sufficiently clear, that such a country gentleman must farm, and with success; or he must be deprived of many very essential comforts of life.

“Such accounts explain to us the reason of little estates being every where swallowed up by large ones: nineteen young men in twenty, and many old ones also who come to small estates, are ruined before they are well turned in their new situation; and this is for want of calculating their abilities, examining what they can spend per week, and paying ready money.

“As to your husbandry, you are to remember that this is the only possible means you have of bettering your condition in life; by gradually increasing your farm, (but never doing it without the land in hand being profitably conducted,) you may very materially improve your income: and by thus advancing in a branch of industry, you take advantage of that rise of times, which crushes people of small incomes, who can not advance with the progress of others. As you have no particular pursuit to occupy your time, I do not see that you can have a better than this. Your soil is not the most favourable, but it does not demand any very expensive exertions; the tract being small, you are to remember that great economy and carefulness are necessary, and upon this principal; because a very small loss in labour, for want of attention, by perpetually recurring, will grow into a material object upon the whole year’s account. Very many farmers save more than they make; and others, after deducting the value of their own labour, and that of their children, do not make more than a living. Except upon particular soils, it is not a profitable employment of money compared with many others; and I urge this the rather, that you may be assured it will not answer, unless well followed and judiciously conducted. When I come to you, I will hear what has been the management, and put you in a train that it shall be safe and beneficial. I will then talk with you upon what you have written of *new Leicester sheep*, and some other things, all of which I beg you

postpone not only now, but till a year's account is laid upon the present management, that we may see the points in which any change is advisable."

There is one other short passage from this truly useful author, which I beg leave to add; and with which I shall conclude.

In contrasting the style of living prevalent among these farmers, who according to his opinion live, as they ought, and the prevailing mode of those who, as they ought not, he says—"I have remarked great numbers of farmers' families, such a due measure between the intent and the execution; such harmony between the ideas and the style of living; little pretension and so much enjoyment; such a ready preference of comfort to appearance; and in a proportion to regard in the mode of living, benevolence and possession, that it is difficult to enter their houses without seeing many marks of happiness, and but few seeds of moral misery: but an inquisitive eye through the houses of their neighbors, and see the fearful space between the objects desired and those possessed; the anxiety for improving appearance; the breathless expectancy, the insipid reality; wounded pride, active envy, the jealous rank, the whole exterior would justify suspicion, that education was given to people, only to sharpen the ingenuity with which they can make themselves miserable. I never quit the house of a man where the style of life is at all showy, or tending to without regretting the folly that buys appearance at the expense of ease.

One of the great miseries of education in these times is, that little difference is found between that of 1000l. a year, and that for 20,000l. Millions of young men have every possible idea of great expense in them, but with slender means of gratifying the slightest. What ample preparation for future miseries."

One word more of admonitory reflection in addition to Mr. Young's and I have done. Early imprudences rarely, very rarely fail to embarrass a man, long after he has deeply repented the folly of his ways; and what greatly aggravates the mischief is, that the consequences of these excesses are almost always visited upon his innocent posterity. It ought to add double force to the numberless motives for prudence and sound practical morality in our conduct—that although the world be some three or four thousand years old, the whole experience of centuries past, scarcely affords any useful lessons to those who have not purchased by their own personal sufferings. Not one young person in a thousand can be made to believe, but that the numberless shipwrecks sustained by those who have sailed before us, on the great tempestuous ocean of life, have all been caused by some error of calculation, some mistake in "the reckoning," which his superior sagacity will detect, and his superior discretion be powerful enough to avoid. Another and another scene of ruin still succeeds; yet still the buoyant influence of blessed hope invades the sanguine presumptuous heart of inexperienced youth to the anticipation of fairer prospects, smoother waters, and brighter skies.

Kitchen Garden, for February,

from the Practical American Gardener, published by Lucas Fielding, jun.

As the kitchen garden is the most useful, as well as absolutely necessary department, in order to have a full supply of the necessaries of life, it is therefore of the utmost importance to pay some attention to the choice of soil, situation, and extent, as well as to manure it sufficiently for the regular growth of the crops.

A full supply of manure, compost, or rich soil, should be procured, and the plants will thrive much better, should the manure, if stable dung, be left in a heap and turned over frequently for some months before used) also that the ground in general be trenched six spades deep, as directed in Janu-

ary, and the manure well mixed throughout. This work, where it can be conveniently done in the fall, will amply repay the gardener for his toil, as well as enable him to expedite his business in this and the next month, when the employment will demand full attention, as, in most cases, simply spreading the trenched ridges will be sufficient.

The compartment for peas, Windsor beans, kidney beans, &c. need not be more manured than rich ground for wheat or other grain; and be careful not to put any dung on (even though it may be entirely rotten) in the spring.

Situation, Soil, Water, &c.

A moderately low situation is to be preferred, as being less exposed to cold cutting winds in spring, and more retentive of moisture during the summer months. If there should be a moderate slope, to the south it will be desirable; this, however, is not absolutely necessary, if it be not overflowed in winter, but it should be moderately dry, and then by manuring and proper attention, good crops may be produced. A loamy soil, either of a brown or black colour, is the best, more particularly a light, sandy, hazel loam. A clayey, strong stubborn soil must be improved by mixing sand, ashes, and other loosening light substances. A sandy soil, which is of a very light, sharp nature, must be fertilized by plenty of rotten dung and strong earths.

Water is a very essential article in a kitchen garden in summer, to water all plants newly set out, and also such as cannot subsist without a due supply of moisture during the drought of that season; therefore, one or more reservoirs of water should be formed in the most convenient part of the ground, and kept constantly supplied with water for this purpose.

Fences for enclosing the ground.

It is absolutely necessary to have an effectual fence around the kitchen garden, both for security, and to defend tender and early crops from severe winds and frosts. It should be laid out either square or an oblong square, which experience has determined to be the best.

The garden may be enclosed, either with a high board fence, (which should be tongued and grooved,) or where it is not to raise wall fruit, a hawthorn hedge will answer; but where wall trees are intended, especially in the northern parts of the United States, no fencing is equal to brick walls, which, by reason of their retaining and reflecting the sun's heat, are the most effectual preservatives of the latest and more delicate kinds of fruit.

Hot-walls, for forcing by fire heat, &c. are often erected in large gardens; for an account of which, see the fruit garden for January.

Laying out the ground.

The ground must be divided into suitable compartments or squares for regularity and convenience. A border must be carried round close to the boundary walls or fences, about six or eight feet wide, in order to raise the various early and other kitchen garden crops, and also for the benefit of the wall trees if any. Next to this border a walk should be continued all round the garden, from five to ten feet in width. The remaining part of the ground may be divided into plats of about 100 feet square, round each of which, a border may be laid out of about three and a half feet wide, in which, where the garden is not large enough to admit of pleasure grounds, the various annual flowering plants may be raised; these borders may be edged with thyme, savoury, sage, hyssop, lavender, sweet marjoram, &c. which will produce a useful crop, especially if designed for the market. The beds may then be laid out evenly, (about three and a half feet wide,) by a line, and the walks between each bed trod down firm, and where it is intended to be neat, the edges of the beds, as well as of the borders, may be cut down with the spade, by a line, and about an inch of earth thrown out of the

walks on the beds, and carefully raked over them, the whole will be then in order for planting; but this part of the work can seldom be performed in the middle states until March, except in the warm borders adjoining the walls or fences, which are therefore very valuable for early crops.

Culture of the Ground.

With respect to the culture of a kitchen garden, it consists principally in a general annual digging; proper manuring; sowing and planting the crops correctly; pricking out, planting and transplanting various plants; keeping the ground clean from weeds, frequently loosening the soil with the hoe, and watering the crops occasionally in the drought of summer.

Digging must be performed early in the winter, or as soon in the spring as the frost will admit of it; also as often as any new crops are to be planted at any season of the year, and at every digging a fresh supply of rotten manure should be used; except for peas and beans. In the spring digging, it would be advisable to pare off about two inches at the top and turn it into the bottom of the trench: this should be done two spades deep for carrots, parsnips, beets, and other deep rooting esculents; for other plants, one spit deep may answer.

Manure.

Any kind of dung, or compost of dung and earth is proper. Horse stable dung rotted, suits all sorts of plants; well rotted neat's dung, or a compost of different kinds, as horse dung, neat's dung, hog's dung, farm yard manure; mulch, ashes, lime, rubbish, broken small, saw dust, rotten tan, having all laid together, and frequently turned until well rotted, will make excellent manure.

Appropriation of the Borders, &c.

The south border must be appropriated for raising the earliest plants, as early peas, beans radishes, spinach, lettuce, carrots, small salad, kidney beans, &c.

The east and west borders for the succession of the foregoing early crops; and

The north border, being shady and cool, will serve for raising, and pricking out many plants, slips, and cuttings in summer.

The internal parts, called the quarters, are always to be appropriated to raising the larger principal crops, such as cabbages, cauliflowers, broccoli, coleworts, peas, beans, kidney beans, onions leeks, carrots, parsnips, beets, potatoes, turnips artichokes &c.

One of the quarters may be allotted to gooseberries, currants, raspberries, and Indian corn.

The gooseberries may be planted in rows at about six feet distant, and the same in the rows, and trimmed up with a single stem about 18 inches, and then the crown.

Currant bushes may likewise be planted in rows about six feet distant, and about two feet asunder in the row; stakes may then be driven down on each side of the rows, so as to form an enclosure about two feet wide the whole length of the rows, and about three feet high; nail two strips on each side of these stakes, one at the top, and the other about half way down, which will keep the bushes within due bounds, form a handsome hedge, and produce large fruit and a plentiful crop. This will answer for both the white and red. The black currant should be planted from two to three feet apart in the row, and the trellis should be allowed six inches more width than the other, also six inches more in height.

Raspberries, both the yellow and red, to be

planted in rows about six feet asunder, and the rows about nine feet apart. If good posts are set in the ground, about six feet out of the ground and about twelve feet apart along the row, the bed allowed to be three feet wide, the posts planted opposite to each other, and iron hoops nailed thereto, near the top, and about half way down, and rails of about thirteen feet in length, and one and a half inches thick, cut in with a saw so as to fix on the iron hoops, the plantation will have a fine effect, both as to its appearance and production.

Indian corn, for an early crop, will suit in this quarter, and if the low corn is procured from the northern parts of Vermont or Canada, every other year, as it materially changes when planted in a southern climate, ears for the table may be furnished about the time of wheat harvest; for the culture of it, see March.

Cucumbers and Melons:

Should the raising of early cucumbers and melons not have been begun last month, it may be undertaken in the middle or latter end of this, with a greater prospect of success, observing the directions given under this head in January.

The seed hot-bed which is to be made now, either for cucumbers or melons, must be managed, as well as the seed sown, as directed in last month; also observe that to be well supplied with cucumber or melon plants, in order to have a reserve for accidents, which may and will happen, as the plants are very tender, and the season difficult, sowings ought to be made every three or four days, both in last month, and also in this.

Ridging out early Cucumbers and Melons.

Such of the plants as were sown last month, and have been preserved in a good growing state may now be fit for ridging out into a larger hot-bed, there to produce their fruit.

A new hot-bed or beds should therefore be prepared for these plants, agreeably to the directions given in January. The bed being finished, put on the frame and lights, tilting the upper end of the lights, that the steam may pass off. In a week after the bed is made, level it, and again put on the frame; and if the violent heat is over (but be careful to let that pass off first,) lay in the earth, of the sort before directed; make a hillock of this earth about ten inches high, under each light, the spaces between the hillocks and quite to the sides of the frame, to be covered only three inches, which is to be added to, when the heat is become moderate, until it is raised as high as the top of the hillocks; no addition is to be made by degrees. As the plants were directed last month to be planted in pots, the plants now are to be turned out of a pot with the ball of earth entire, in each of these hillocks; the pots should have some water given them the day previous to transplanting; take a strong plant, and when the ball of earth is taken entire out of the pot, make a hole in the middle of the hill, and place the ball with the plant entire in the hole so made, closing the earth well round it, and about one inch over the top, to the ends of the plants, run down all the lights close till the stem rises strong, when they must be tilted behind sufficiently to give it vent.

It will now be necessary to use every precaution in order to support a constant temperature in the hot-bed, also tilting the glasses to give air, and to line the outside of the frame with litter, &c. Some gardeners are so attentive to this part of framing, that they ascertain the degrees of heat by plunging a Fahrenheit's thermometer in the hot-bed, and have fixed the following standard.

The temperature for some of the principal cuculents, forced in frames, or otherwise, should be as follows.

	MINIMUM. at night.	MAXIMUM. in the day.
Sea Kale	50 degrees,	58 degrees.
Asparagus	50	60
Hardy natives, in general	50	60
Potatoes	60	70
Kidney Beans	60	70
Cucumbers	60	70
Melons	65	75

The gardener is directed in the former part of this paragraph, to add earth between the hills of the cucumbers and melons by degrees, when the great heat abates, to which this additional direction may now be given; should the roots of the plants appear through the sides of the hills, the earth between the hills may be taken away, and fresh earth added, which should be moderately dry, and as warm as the temperature of the bed; with this cover the roots of the plants, and every three or four days add more, until it is the height of the hills. This earth may be put into the frame for one night, or until it has acquired the temperature of the bed.

Of pruning or topping Cucumber or Melon vines.

Both cucumber and melon vines will produce fruit earlier, if the first runner is stopped or pruned early, and the cucumbers planted last month will require this operation to be performed about the middle of the present month; the melons will be somewhat later.

In the centre of the plant at the bottom, of the second rough leaf, the first runner commences, which appears like a small bud, this is to be taken off close, which is best performed with a pair of sharp small scissors, but be careful not to do it so close to the plant, as to wound the joint from whence it issues.

After the plants are thus pruned, they will gather strength in a few days and be more stocky, and in about ten or twelve days will begin to send out two or three runners, which are the bearing shoots, and will probably show fruit at the second or third joints, but the runners if not pruned off, would prevent these lateral branches from putting out as soon, and besides might fill the frames without producing any fruit. The weakly vines should be cut out, and also those which are too much crowded. If the bed is properly managed, and the plants have succeeded well, fruit will begin to appear by the latter end of this month, or beginning of next, on the cucumber vines. The melons require about six or eight weeks longer.

To impregnate the young fruit of Cucumbers or Melons.

The flowers of the cucumbers and melons (as well as the squash and some other running vines) are male and female, separate on the plant; the female flowers produce the fruit; the males are commonly called false blossoms, yet they are ab-

solutely necessary for the fecundating the female or fruit flowers, according as they come into blossom, and in hot-beds, for early fruit it is necessary to assist nature in this important task, by applying the central anthera of the male, to the stigma in the centre of the female flower.

This business of setting the fruit in cucumbers, &c. in hot-beds, where the air cannot carry the male farina to the female stigma, is a curious and absolutely necessary operation, as may be conceived by the profusion of farina, which is scattered by Indian corn, not only over the silk (or umbellical cords) of the ear, but is wasted by the winds from one field to another. In order to set the fruit in the early plants of cucumbers or melons in hot-beds, observe the following particulars. Cucumbers and melons as before observed, produce male and female blossoms distinct on the same plants. The female or fruit bearing flowers are easily distinguished from the males; the former having always the embryo fruit placed immediately under the base of the flower; that is the embryo fruit shoots forth with the flower bud on its top, visible at its first eruption from the stem of the plants, while the male blossom is placed immediately on the top of its foot-stalk, without any appearance of fruit at its base. The anthera of the male is situated in the centre of the flower, and is furnished with a fine yellow farina or dust, designed by nature for fertilizing or impregnating the female; but which as before observed, in early plants in frames, not having the full air, &c. requires the assistance of art; therefore, according as the female blossoms expand, be careful in the same day, or second morning at farthest, to pluck a fresh, full expanded male flower, pull away the petal or flower leaf, then holding it by the stalk, apply the remaining anthera or male in the centre, to the stigma or central part of the female blossom, twirling it about with the finger and thumb, to discharge some of the fecundating powder on the female organ; and thus the fructification is effected, which will be obvious in two or three days, by the young fruit beginning to swell; always, if possible, procure a fresh male blossom, with its full portion of farina for each impregnation. Without the assistance of the male blossoms, the females, having the embryo fruit at their base wither and decay, and the fruit soon turns yellow and drops off. After this operation, the fruit of cucumbers, will in two or three weeks, arrive to a proper size for gathering for the table, provided, the plants have a generous and vigorous growth. As in mild seasons the cucumbers may show fruit in this month, the method of impregnating is given at this time, but it will more frequently be necessary to perform it in March.

8 To force Asparagus.

Plant a quantity of three or four year old roots, in a hot-bed, under frames or glasses, to produce a succession, for early gathering, as directed in last month, see September, October, November, or if beds are provided, proceed as in January.

Artichokes to secure the plants.

If the weather is severe, defend each plant, by laying around it, the driest litter, or coarse straw.

Planting Beans.

As a tolerable crop of the early mazagan, early Liston, long podded, white blossom, large Windsor, toker, Sandwich, and other kinds of

the vicia faba of Linnæus (not the kidney bean) cannot be raised in the United States, especially in the middle and southern parts, unless they are put in the ground, as early as the frost will admit, they should therefore be planted either in this month, or the beginning of March, as they will not be liable to be injured by any frost, except in very extraordinary cases. A strong, heavy soil is the most suitable.

Plant the small early kinds, in drills, three feet asunder, and the beans two or three inches distant in the rows, and covered two inches deep.

The large kind, such as the Windsor, token, sandwich and broad Spanish, should be planted at the distance of four feet asunder, and somewhat thinner than the small kinds.

The plantings may be continued until the middle of March, but those planted after that season will not be so large or productive.

Sowing Peas.

Towards the latter end of this month, prepare a south border of light, dry earth, raise the earth into narrow sloping ridges, about a foot broad at the base, and nine inches high, and at the distance of three feet from each other; ranging these in a south-west direction, from the north side of the border, then on the eastern side of these, about half their height, sow your drills of peas. In this situation they will have all the advantage of the morning and mid day sun, and advance in vegetation, much more rapidly than if sown in the ordinary way.

Sow each sort separate, and pretty thick in the drills, covering them not more than an inch or an inch and a half.

Peas may also be forced in hot beds if required, or they may be sown in pots and planted out afterwards in other pots, when they have attained about one or two inches in height, if there is the convenience of a hot-house.

Cauliflower Plants.

The early autumnal sown plants which are in frames, must be protected with a covering of boards, mats, &c. without the assistance of glasses, and never have powerful sunshine admitted to them while in a frozen state.

Those plants which were raised from seed last month, should as soon as they arrive at the size of about four or five inches, be transplanted into a new moderate hot bed, as they will thus bear transplanting much better than if left in the seed bed.

When transplanted and managed as directed, and the proper season arrives for planting them out, they are to be taken up separately, with a shallow transplanting trowel, preserving as much earth as possible about the roots of each plant, and deposited where they are to flower; thus treated they will be scarcely sensible of their removal; will continue in a constant regular state of vegetation, and if protected for ten or twelve days with suitable coverings from too powerful sun and also at night, success will crown your labours.

Continue to give a due portion of air to your cauliflower plants at all favourable opportunities.

Sowing Cauliflower Seed.

Sow some cauliflower seed in a hot bed, the beginning, middle or latter end of this month, to succeed those sown in January.

Cabbage Plants.

Continue to protect your autumn sown cabbage plants, from the severity of the weather, but be careful that such as are under frames, and have not frozen from the extreme severity of the weather, are not exposed to the strong influence of the sun, until the earth, in which they are, is gradually thawed, which must be done with great caution.

The cabbage plants which were sown last month, should as soon as they have arrived to the height of three or four inches, be transplanted into a new hot bed, at the distance of three or four inches from each other, each way.

Cabbage Seed.

You must now sow a full crop of cabbage seeds, such as the early Smyrna, early York, early dwarf, Battersea, and early sugar loaf, to be sown in a hot bed.

Towards the latter end of the month, you may sow these kinds on a warm south border, to be covered with frames and glasses or on slight hot-beds, to be covered as before, or with paper frames, boards, or mats, occasionally.

Begin now the sowing of the drum head, flat dutch savoy, red pickling cabbage, and other late cabbage seeds; these will produce larger heads and earlier than if sown much later.

Radish Seed.

In order to have radishes to succeed those sown in January let some of the early kinds be now sown on a slight hot bed and treated as before directed.

Towards the end of this month, if the weather is mild, and the ground open you may sow in a warm border, some short top, early frame, white and red turnip root and radish seeds, keep them separate in the beds. These, if they succeed will be fit to draw early in May.

On another piece of ground sow salmon and purple radish to succeed the former.

A small portion of spinach and lettuce seed may be sown amongst them without injury to either.

Carrot Seed.

If carrots are desired at an early season, some seed may be sown in a slight hot bed towards the middle or latter end of this month. They will answer without glasses, if the frame be covered at night, with mats, and also in severe frosty weather, in the day time. The early horn carrot should be chosen.

Parsnip seed.

Parsnips, being very hardy plants, and the seeds remaining in the ground a long time before they vegetate, may be sown as early in this month as the ground can be prepared to receive them.

Those sown as directed in August, may now be thinned so as to be about eight inches from root to root, and carefully cleaned from weeds, the ground stirred about them to encourage a lively growth, but if this cannot now be done for the frost, do it as early as possible.

When the ground is bound up by frost, the intelligent gardener will readily perceive these directions are designed to expedite the important task of getting his seed in the ground as early as possible.

Spinach seed.

As the prickly seeded spinach is the hardest kind, sow some of it on dry warm ground, about the latter end of this month; sow the seed thin and regular, and rake it well in.

Lettuce Seed.

If the weather is mild and the ground in good condition about the latter end of this month, you may sow some lettuce seed, which ought to be defended by a wall, hedge, or board fence.

The kinds to be sown at this season, are the early curled and common cabbage lettuce, if intended for small sallading; to be sown very thick, on the surface, after the ground has been carefully raked over, and then covered; observing that these seeds require but a slight covering of earth.

You may also sow other kinds, such as the white or green cos, and spotted cos, or if to produce heads you may sow the white Silesia, grand admiral, large Mogul, brown Dutch, or New Zealand lettuces, good hard heads; for this purpose they must be sown very thin, and when of sufficient size transplanted into different borders; leaving a sufficiency in the seed bed, which will head earlier than those which may be transplanted.

Lettuces which have stood the winter, closely planted in frames, should, if expected to grow large, be thinned about the latter part of this month, to about a foot asunder. Be careful to pick off all the decayed leaves, and to stir the earth about the roots.

Parsley Seed.

Sow both common and curled parsley seed, on a warm border.

Celery.

A small quantity of celery may be sown towards the end of this month, in a small bed of light, rich earth; for an early crop, the best kinds are the solid and red celery.

Kidney Beans.

Where early kidney beans are wanted, they may be planted in this month in a hot bed, made as before directed. The best sorts for this purpose are the early cream coloured dwarfs, early speckled white and yellow dwarfs.

But where there is a hot house, early kidney beans may be raised with much less trouble, and a greater certainty of success than in hot beds.

Mushrooms.

Mushroom beds must still be well defended from heavy rains and frosts, both of which would destroy the spawn.

There should be a covering of straw, not less than 15 or 16 inches thick on every part of the bed, and during the cold wet weather, large garden mats should be spread over this, to secure the bed more effectually from snow, rain or cold, and if at any time the wet has penetrated, and wet the straw, it should be immediately removed, and replaced with clean and dry straw.

Beds may be made under open sheds, or frames with roofs constructed for that purpose, which might at any time be removed; this would protect them from wet, especially in the winter season, by which the bed is liable to be destroyed.

New mushroom beds may now be made; for the method of making them see October.

Paper Frames.

Paper frames made like the cover of a wagon or the roof of a house, with two pitches in the upper part, will be a cheap security for many plants.

A frame may be made as long and as wide as the bed it is designed for, and strongly morticed and tenanted; where the wagon cover shape is made use of, hoop poles may be arched from one side to the other, at suitable distances along the frame, from one end to the other; along these hoop poles fasten strong twine at the distance of 8 or 10 inches apart, and also over the tops, then over the whole, paste large strong paper, which must be damped a little in order to have it straight when dried, and after it is dry, paste strips of paper also on the inside over the twine. When the whole is perfectly dry, give it a coat of linseed oil.

The roofed frame may be made in the same manner, only let the roof open each way toward the ridge, gable ends of wood, must of course be morticed into the frame, and at the sides and also

the ridge, strips fastened for the openings of the roof to be fastened down to.

These frames, if well painted, will last for several years, and may be used on several occasions.

Southern States.

Georgia, South Carolina, and several other of the southern states, this month, will afford the gardener the same active employment as March compels those in the middle states to give their attention to, and of course they will find the necessary directions in next month.

In the eastern states and the more northerly parts of the union, hot beds and hot houses will claim a longer attendance, but as the middle and latter end of March and beginning of April will probably relieve the ground from its frost, the plan pursued in this work will be useful to them also; observing that they must be prepared, as soon as the severe frost will admit to expedite their plantings and sowings.

FOR THE AMERICAN FARMER.

Elmwood, Feb. 10, 1820.

Sir—Some weeks past, one of your correspondents made a request, to be informed about the value, burning and use of shell lime. If my small experience will be of any service to him, and, no better information comes to hand, you are at liberty to use it. You will perceive that I have theorised a little, and extended the subject to the use of lime in a particular compost, as worthy the attention of those who are desirous to use every practicable and economical method of improving their exhausted lands; I have burned and used oyster shell lime on my land some years. The shells are in primo a cheap article, costing about one cent per bushel: but whether they are ultimately cheap I am not so certain, nor can it be determined, without a series of relative experiments with stone lime, as well as by calculating the distance and expense of hauling, the conveniences of wood, &c. I burn about 450 bushels, or 18 to 22 horse cart loads in a kiln, formed after the following plan: Four trees from 16 to 18 feet long are laid parallel at three feet distance, the two exterior trees about one foot diameter, and green; the two interior half that size, and dry; these lesser are to be raised on stones to a level with the larger trees. When cord wood is laid over these four trees they of course form three flues, which are to be closely laid and stuffed with very dry small brush. Two tier of good stout hickory logs (such as fire wood) should form the first stratum to receive the shells, and then a frame laid on at the extreme edges. At the flue ends of the kiln, the logs forming this frame should be large enough to rise some inches above the cord-wood, whilst the other two laying on the wood need not be more than five inches thick. This frame is to keep in the base of the shells, and this and the other frames requisite, are to be secured at the corners by notching, and by small branches left on the trees, or in case these fail, by some pieces

of old iron hoops punched and nailed to each log for if these slide, much mischief will be done by the shells pouring out and the kiln careening. Eight loads of shells may now be laid on, taking care as they rise above the frame to lay by hand some shells at the exterior all one way, as oyster men pile some of their but oysters for show.

One or two courses will greatly assist in keeping in the mass, and to form the kiln more perpendicular. When this first great portion is up and nicely leveled, another single tier of oak wood may be laid on, and another frame and more shells, say fifteen inches deep; and so on as long as any can be laid on, making the strata of shells thinner and the wood also as they ascend, till it ends in a blunt point. Some cord wood must now be laid end upwards from the earth to the second frame, on the sides of the first large logs that form the flues. These will give support to the kiln as well as burn the exterior shells; for the kiln is apt to sink irregularly, and here I may observe, that the smaller logs that form the flues, are designed to give the kiln a disposition to sink interiorly; a reverse settling would throw great quantities partially burned on the ground. Some very long and stout brush should be provided to burn the exterior shells at the flue ends, where cord wood could not be set up; this may be fired after the kiln has been half burned and continued. A quarter of a cord of dry wood should be kept to throw into the flues, as the brush burns away.

The kiln should be fired in a calm evening, and strictly watched till morning. When the fire is too fierce and driving through the flues, it may be checked by stopping the flues with some shells or earth. If the wind rises after firing, some long brush must be immediately laid on the windward side and fired; for the heat will be driven from that part and the shells left unburned, unless it is defended and compensated by the exterior fire of the brush. The kiln will be cool in two days, and fit to scatter in two weeks or sooner, if the weather is damp and rainy. Care must be taken that it get not too much wet, from being placed in low grounds or by heavy rains, for if it once gets thoroughly slacked and wet, it will give more trouble than inexperienced persons are aware of, and, moreover, will require a large quantity of earth to divide it for scattering.

As near as I can judge from appearances, the shells will lose thirty-three and a third per cent. (by burning) in measure; as to the quality and power of the lime. I am not able to give the comparative value between this and stone lime with any accuracy, owing to the scarcity and inferior quality of the stone lime usually sold in my neighbourhood. But considering the weight of the stone lime its greater increase when slacked, and its superior causticity. I have allowed three bushels of shell lime to supply the place of one of good stone lime, and have therefore dressed my fields with 180 to 200 bushels of shell lime per acre, as a full complement, but never exceeded 66 to 70 of stone lime: nor do I think that I have been far from a correct judgment, though time must show. I have applied lime in various ways. The

most eligible plan appears, that of spreading it from the kiln, and ploughing it in immediately, that it may never form a hard mortar, but continue caustic and soft, and spread its lime water through the field, which is the product of the first solution it undergoes, the most obvious one and the most speedy to act. This is so conspicuous, that I have seen contiguous unploughed ground on a declivity, by receiving the limewater more speedily benefited, than the ploughed field where all the lime was deposited.

The next best plan is to apply it on grass, where it has no opportunity of forming mortar. The mixing it with earths and the harrowing it on the surface, is the worst mode that can be devised, it will then get into small granules of mortar, that will lay two years or more undissolved, and of course unproductive. This I have experienced to my disappointment.

It would be well if we could contrive to spread lime on land, at a time when it would require several ploughings and harrowings to get it in order, for then it would be more uniformly mixed, and readily combined with the other earths; this we find to be necessary even with stable manure, how much more necessary with such a (comparatively) insoluble earth as lime.

In every object the farmer has need to take time by the forelock, but in the use of lime it is indispensable; for he will be disappointed if he has any expectation of seeing a very marked improvement in his soil in less than two years; which interval may probably be as well spent in turning it over occasionally, as in attempting to draw on it for a crop; nor should he even at the end of two years expect to reap a good crop, without the aid of more quickening manures, (obtained from matters that have been once organized) to act as a milk to the plantule, till it acquires vigour and strength to draw up and digest the lime, and clay, and flint, which compose the mother earth, and when digested the more fixed constituents of the plant.

Let the farmer curb his impatience by reflecting that he has done no more than to make his land limestone land, by the stratagem of transporting and burning limestone or shells. In which scheme sixty bushels of burned stone have supplied the deficiencies of 600, or perhaps 6000 bushels of unburned stone, and as limestone is nearly insoluble and lime soluble, it is a fact past denial, that its activity on land is in strict proportion to its solubility, and dependent thereon. The causticity, effected by burning, is its first and most obvious state of solubility, in that state readily dissolving and forming limewater. Sursaturation* with carbonic acid is another mode of solution. Corrosion and neutralization with mineral, animal and vegetable acids, a third mode. These three modes

* Lime would be much more readily dissolved by carbonic acid, and more freely absorbed after burning, than if that operation had not been performed.

are exterior and without the plant. But the digestive powers of the living plant are probably as capable as the animal stomach, to digest without the aid of acids or alkali, a definite quantity of the fine elutriated materials of the soil, which pass into the plant by the help of the water it absorbs, thus making a fourth mode of solution. And although lime in combination with certain acids, as in gypsum, may sometimes be nearly inactive on particular soils, from causes not well understood, or by decomposition; yet I maintain that whenever plaster acts, it is merely as *lime more soluble*, and, of course, more efficient, though more transitory. Thus bearing the same relation of solubility, activity, and transitory action to lime, that lime does to limestone.

In elucidation of this theory, I may state in rough calculation,

That 1000 bushels of pounded limestone would enrich an acre of ground for one hundred years.

Sixty bushels of lime, the same article burned, would do the same for fifteen years.

Four bushels of lime made more soluble by acids, as in gypsum, would accomplish the same for one or two years.

The complete solution of lime in muriatic acid, would render it instantly active, but at the same time like any other salts, would require great management to prevent its too sudden action on the plant, and quickly running off the soil. It would require small quantities mixed with other materials to be frequently applied, and should never be used in low ground, declivities, or wet hills. I mention this merely to show that on grounds accessible to sea-salt, is on the coast and river sides, that if gypsum was decomposed and muriate of lime formed, that the muriate might not compensate for the damage. It has been said that gypsum does not answer well on such places. The great use of plaster on limestone land in Pennsylvania, is no argument against my theory, for I look upon it exactly in the same light, as using manure water on garden grounds not sufficiently dunged to act well without such quickening aid.

Sir H. Davy has made every state and preparation of lime to act on different principles in agriculture, and has thus destroyed the unity we ought to look for in a good theory; how any person acquainted with agriculture, chemistry and vegetable physiology can subscribe to him, I am at a loss to know, unless they have made up their minds to suffer the dazzling lustre of his name, to put out the sober light of their reason.

SILVANUS.

[To be continued.]

FOR THE AMERICAN FARMER.

MR. SKINNER,

Observing that Mr. "Pickering" had occasion to make some extracts from "Davy's" work, I take the liberty of handing you the whole of his table, and shall be glad if you will give it an insertion—it will at rest various disputes on the subjects mentioned in it.

M.

TABLE
Of the quantities of soluble or nutritive matters
afforded by 1000 parts of different vegetable
substances.

Vegetables, or vegetable substances.	Whole quantity of soluble or nutritive matter.	Mucilage or Starch.	Saccharine matter or Sugar.	Gluten or Albumen.	Extract or matter rendered insoluble during preparation.
Middlesex wheat average crop -	955	765	—	190	—
Spring wheat, -	940	700	—	240	—
Mildewed wheat of 1806, -	210	178	—	32	—
Blighted wheat of 1804, -	650	520	—	130	—
Thick skinned Sicilian wheat of 1810 -	955	725	—	230	—
Thin skinned Sicilian wh't of 1810	961	722	—	239	—
Wheat from Pot'd, -	950	750	—	200	—
N. American wh't, -	955	730	—	205	—
Norfolk barley, -	920	790	70	60	—
Oats from Scotland	743	641	15	87	—
Rye from Y. Shire, -	793	645	38	109	—
Common bean, -	570	426	—	103	41
Dry Peas, -	574	501	22	35	16
Potatoes, -	from 260 to 200	from 200 to 155	from 20 to 15	from 40 to 30	—
Linseed cake, -	151	123	11	17	—
Red beet, -	148	14	121	13	—
White beet, -	136	13	119	4	—
Parsnip, -	99	9	90	—	—
Carrots, -	98	3	95	—	—
Common turnips, -	42	7	34	1	—
Swedish do -	64	9	51	—	2
Cabbage, -	73	41	24	—	—
Broad leaved clover, -	39	31	3	2	3
Long rooted do. -	39	30	4	3	3
White clover, -	32	29	1	3	5
Sainfoin, -	39	28	2	3	6
Lucern, -	23	18	1	—	4
Meadow fox tail grass, -	33	24	3	—	6
Perennial rye grass	39	26	4	—	5
Fertile meadowdo.	78	65	6	—	7
Roughish do. do	39	29	5	—	6
Crested dogs' tail do. -	35	28	3	—	4
Spiked fescue do.	19	15	2	—	2
Sweet scented soft do.	82	72	4	—	6
Sweet scented vernal do.	50	43	4	—	3
Fiorin, -	54	46	5	1	2
Fiorin beet in Winter, -	76	64	8	1	3

numbers of bones are carefully thrown away. May we not suppose that the bone would yield more manure than the same weight of meat or dung? Every house-wife knows their richness in making soap.

¶ *Quere.*—In what way can bones most effectually and advantageously be applied as a manure? An answer is requested—as also on their real value when so applied.

¶ The shavings of horns from the shop of the comb-maker, are said to be more quick and valuable than any other manure for the garden!!

¶ What can our obliging correspondents tell us about the natural history, and best method of destroying that dreadful plague of our orchards, the *span worm*—the information is required by some of our subscribers.

Occasional Extracts.

In No. 42, page 325, a Subscriber wants to know "the difference in bulk in a bushel of oyster shells before and after burning." Did I know I would cheerfully answer. If you please, I will be thankful if you will add to his inquiry "the difference in bulk and weight in a given quantity of lime stone before and after burning." Fire-wood is scarce in the vicinity of the nearest lime-kiln (6 miles) from my farm; lime 50 cents cash paid on its delivery at the kiln, eight cents should be added for carriage. Is not lime at 58 cents per bushel too expensive to be used as manure? Will some one of your readers, who has experience in burning lime, be so obliging as to express their opinion upon the following case stated, to wit: If the owner of the soil containing lime stone, would permit a farmer residing at the distance of six miles to quarry lime stone and to make no charge for the same, what could this farmer afford to sell the lime for on his farm after it was burnt? or in other words, if the lime stone and wood are six miles asunder, is it most feasible to carry the stone to the wood or wood to the stone? Would the value of the lime obtained at the expense above-mentioned, compensate the farmer for this labour?

In answering the inquiry relative to the cob-breaking machine, none of your correspondents have mentioned those vended by Wm. Brown, of Old Town, Baltimore. I have used one of his invention for several years in my mill, and they answer well both to break plaster and cars of corn.

For the American Farmer.

THE FARMER.

BALTIMORE, FRIDAY, FEBRUARY 18, 1820.

BONES USED AS A MANURE.

It is a well known fact, that in England the means of accumulating manure, are husbanded with so much economy that even bones are saved; nay, have been imported from some parts of the continent as we are told in their newspapers for that purpose. In this country, especially in the neighbourhood of towns and villages, immense

A very pernicious plant has taken almost entire possession of two of my best fields, and every attempt that I have made to eradicate it, has proven fruitless. This plant made its appearance some years ago, near to my garden fence, from which I conclude, that some bunches of it must have been thrown out of the garden, (as it is not uncommon for it to be cultivated as a garden flower.) It is known by various names, with us it is called the "Snow Drop," it has an onion root, the blossom white and generally flowers early in spring.

I have made several experiments on one of my fields, but without success; I have cultivated the

field in corn for two or three years successively; on one spot I put a large quantity of lime, which burnt up the whole surface of the ground, but on penetrating the earth two or three inches the next spring, I found the root fresh, and ready to shoot; I even took some of the roots and exposed them on a rock during all the winter frosts, and contrary to every reasonable calculation, the ensuing spring they did actually put forth. In travelling through Chester, Pennsylvania, I have frequently observed quantities of this plant lying in the public roads, from whence I conclude, that they must have been taken up by hand, as this is a tedious method, especially where it has got head. I take the liberty of putting my brother farmers on their guard against it, and to solicit from those who may have any knowledge of the best plan (besides paring and burying) of destroying this really pernicious plant. M.

What was said in the Farmer, by our correspondent "Sylvanus," respecting garlic, would equally apply to this plant.—*Edit. Farmer.*

VERY REMARKABLE SWINE.

In the market in this city, on Wednesday last, were exhibited two hogs, raised by Mr. John Harburger, of Lancaster county, Pennsylvania, of the following extraordinary size. The two weighed 1743 lbs.!! One of them was six feet and 3 inches in girth round the body. His length from the root of the tail to the end of the snout, was nine feet and an inch. The one was eighteen and the other fourteen months old. For the last six months, they had been fed entirely on corn and milk. They are in excellent plight, and yet increasing in weight.

Mr. Editor,

Since reading your remarks on "The Art of making good Bacon," I have inspected the memoranda of a practical economist for a series of years, and from a variety of experiments, have formed the following table of ten hogs, fatted chiefly on corn.

Days of fattening,	45
Weight, when put up,	1257
Do. when killed,	1728
Do. when cleaned,	1366
Weight of hams, shoulders, and middlings,	909
Do. of hams and shoulders,	752
Do. of leaf, fat,	138
Do. of feet, heads and backs,	319
Do. of hams, shoulders, and middlings, when smoked,	733
Do. of hams and shoulders, when do.	607

Hence it appears that the gain in fattening is nearly one pound per day.

in relation to the entire hog the	loss in cleaning,	20	} per centum.
	hams, shoulders & middlings,	67	
	hams and shoulders,	55	
	leaf, fat,	10	
	loss in smoking,	20	

The doctrine of Sylvanus in regard to the selection, the cutting up, curing, and smoking is esteemed as orthodox, and considering that the foregoing exhibit may enhance the stock of your valuable emporium, it is respectfully presented by a

STATISTICAL PHILOSOPHER.

Princess Anne, Md. Feb. 1st, 1820.

EDITORIAL ADVERTISEMENT.

As the first volume of the American Farmer, will close with the month of March, it is time to advertise our subscribers of some new regulations which experience has suggested as being necessary and beneficial, as well to the Editor as to his Patrons—to prevent misapprehension he will endeavour to make this notice as explicit as possible—and

FIRST.—The price of subscription will be as heretofore, \$4 per annum—but the subscriber must take the risk of the mails.

2ND.—To those who prefer it—the Editor will guarantee the receipt of a complete file—that is, when numbers fail to come to hand or are defaced in the mail—duplicate numbers will be sent until all are received in good condition—but the subscriber will wait two weeks before he gives notice to the Editor, as it will sometimes happen, that numbers may be delayed and yet not finally lost.

3RD.—The subscription for the whole year must be paid in advance.

In justification of this change we are sure the following reasons will satisfy every considerate reader—First, the remittance of the whole amount at once can make no material difference, to the disadvantage of the subscriber—on the contrary, it will be easier to make the sum and will save him the trouble of two remittances instead of one—gain, it will enable the Editor to provide his materials on better terms, and having but one letter to answer—one receipt to transmit, and one entry to make, the whole operation will be simplified—much time saved and many mistakes avoided—and more leisure will be gained by him for the selection and preparation of the matter.

4TH.—Every one's subscription must commence with the commencement of a volume, because there will be an equal number of each paper printed throughout the year—and were subscriptions received for a shorter time than one year, a whole volume would be broken, and only a part of one be paid for.

For their punctuality so far, the editor returns his sincere thanks to his subscribers.

It is not for him to say whether they have had their penny'oth, but he can assuredly say that he has made the best of his means to make the American Farmer, worthy of the generous support it has received from the most enlightened men in all parts of the union.

As to the second volume from the materials on hand, and the promised support of eminent Agriculturists, the Editor can confidently promise that it shall be equal in variety and value to the first. More attention will in it be bestowed upon Turnpike roads

and canals—the Editor has been collecting documents for that purpose.

Once more the Editor respectfully requests his subscribers and friends, to procure him additional subscribers, to enable him to increase the number of engravings, some of which will be very costly.

POETRY.

Gypsum,

An Agricultural Ode.

1.

Ye favourites of the Nine, who plume your wing,
Where soft Etesian Zephyrs fan the air,
Where, over scums for ever sweet and fair,
There reigns, from age to age, one still unfading spring,
How will you brook to hear a lay,
Breath'd amid northern blasts, and clouded skies,
Where loud the Genius of the tempest cries,
And fierce the wintry whirlwinds rise,
As boil contending tides in Fundy's rocky Bay.

2.

Well may the Muse approach, with fear,
A scene so rough—so cold—so drear;
But not Golconda's diamond mine,
Though there the brightest gems may shine,
Not all Panama's golden rills,
Not rich Potosi's silver hills,
Though all their treasures on the world they pour,
They equal not the mine on Fundy's ice-bound shore.

3.

Vain glittering ores! at your commands,
Will nature deck the plain?
Can you give back to wasted lands
The teaming soil again?
In all their varied forms, confess,
Man cannot want, but food and dress;
And these, when made you can bestow:
But boasted dross! know, Gypsum's powers
Are, greater, higher far than yours.
'Tis Gypsum's favoured part to make these blessings grow!

4.

Oh! ye! who fly your natives hills,
To seek for distant plains, and streams,
And led by vain, though golden dreams,
Rush on the forest's untried ills;
Let the poor Indian roam his woods,
His light bark stem the western floods,
Uninjured on its way;
Whilst safe, you see your fields arise,
And bloom an Eden to your eyes,
By Gypsum's powerful sway,
Nor Alabama's sultry fens,
Nor wild Missouri's desert glens,
Shall lure thy sons, oh Maryland! from thy fields,
Whilst Fundy's rocky shore the precious Gypsum yields.

PRINTED EVERY FRIDAY,

FOR

JOHN S. SKINNER,

BALTIMORE.

AT FOUR DOLLARS PER ANNUM.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norunt
Agricolae." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, FEBRUARY 25, 1820.

NUM. 48.

AGRICULTURE.

AN ADDRESS DELIVERED BEFORE THE Massachusetts' Agricultural Society.

At the Brighton Castle Snow,
October 12th, 1819, By Hon. JOSIAH QUINCY.

The board of Trustees of the Massachusetts Society for promoting Agriculture, have requested that I should address you, this day, on topics, connected with the objects of their Institution and with the occasion. In acceding to their appointment, I have yielded to considerations of official duty. For this manner, in which the task shall be executed, I need not apologize to practical and intelligent men, such as I have now the honour to address. They know well how difficult it is to cast over a trite subject the air of novelty, or to make one, that is familiar, interesting. There is also something in the every day labours of agriculture, apparently too rough for a polished discourse, too common for one that is elevated, and too inseparable from a soil and its composts to be treated to the general ear, without danger of offence to that fastidiousness of fancy, which is mis-called refinement.

Amid the perils, which thus surround every public speaker upon such topics, where, on the one hand, the rough necessities of the farmer require plainness, and particularly; and where, on the other, the over-scrupulousness of the imagination requires that important subjects of agriculture should be generalized, and intimated rather than uttered. I shall deem myself sufficiently fortunate, if it shall be my lot to escape, without failing in fidelity to the interest of the country, and yet without violating the dainty ear of city sensibility.

Our purpose, then, this day is to seek what is true and what is useful in relation to the interests of our agriculture.

In executing this purpose, I shall address myself chiefly to that great body of our countrymen, who are emphatically called—farmers. By which, I mean, the great body of Massachusetts yeomanry; men, who stand upon the soil and are identified with it; for there rest their own hopes, and there the hopes of their children. Men, who have, for the most part, great farms, and small pecuniary resources; men, who are esteemed more for their land, than for their money; more for their good sense than for their land; and more for their virtue than for either; men, who are the chief strength, support, and column of our political society, and who stand to the other orders of the state, in the same relation, which the shaft bears to the pillar; in respect of whom, all other arts, trades, and professions, are but ornamental work; the cornice, the frieze, and the Corinthian capital.

I am thus distinct, in declaring my sentiment concerning the importance and value of this class of men, from any purpose of temporary excitement, or of personal conciliation but because I think it just and their due, and because, being about to hint concerning errors and defects in our agriculture, I am anxious that such a course of remark should not be attributed to any want of honour, or respect, for the farming interest. On the contrary, it is only from a deep sense of the importance of an art, that a strong desire for its improvement can proceed. Whatever tends to stimulate and direct the industry of our farmers; whatever spreads prosperity over our fields; whatever carries happiness to the home, and content to the bosoms of our yeomanry, tends, more than every thing else, to lay the foundations of our republic deep and strong, and to give the assurance of immortality to our liberties.

The errors and deficiencies of our practical agricul-

ture may be referred, in a general survey, with sufficient accuracy to two sources; the want of scope of view among our farmers, and the want of system in their plans.

Concerning another want, of which farmers are most sensible and most generally complain, the want of cash in their pockets, I shall say nothing because it is not a want peculiar to the farmer. It is a general want, and belongs to all other classes and professions. Besides there is no encouragement to speak of the want, because it is one that increases, by its very supply. All of us must have observed that it almost ever happens, with, however, a few splendid exceptions, that the more a man has of this article, the more he always wants.

The errors and deficiencies, to which I shall allude, will not be such as require any extent of capital to rectify. All that will be requisite is a little more of that industry, of which our farmers have already so much; or that industry a little differently directed.—It is not by great and splendid particular improvements, that the interests of agriculture are best subserved, but by a general and gradual melioration.—Most is done for agriculture, when every farmer is excited to small attentions and incidental improvements. Such as proceed, for instance, from the constant application of a few plain and common principles. Such are—that, in farming, nothing should be lost, and nothing should be neglected; that every thing should be done in its proper time; every thing put in its proper place; every thing executed by its proper instrument. These attentions, when viewed in their individual effect, seem small, but they are immense in the aggregate. When they become general, taken in connexion with the dispositions which precede, and the consequences which inevitably follow such a state of improvement, they include, in fact, every thing.

Scope of view, in a general sense, has relation to the wise adaptation of means to their final ends. When applied to a farmer, it implies the adaptation of all the buildings and parts of a farm to their appropriate purposes, so that whatever is fixed and permanent in its character, may be so arranged as best to facilitate the labour of the farm, and best to subserve the comfort, convenience, and success of the proprietor.

Our ideas, upon this subject, may be best collected from inspection. If our fellow farmers please, we will, therefore, in imagination, adjourn, for a few moments, and take our stand, first at the door of the farm house. I say "at the door." Far be it from me to enter within it. Far be it from me to criticise the department of the other sex, or to suggest that any thing, peculiarly subject to their management, can be either meliorated, or amended. Nor is it necessary, for I believe it is a fact almost universally true, that where the good man of the family is extremely precise and regular, and orderly in his arrangements without doors, he never fails to be seconded, and even surpassed, by the order, the regularity, and neatness of the good woman within.

Let us cast our eyes, then, about us, from the door of the farm house. What do we see? Are the fences on the road in good condition? Is the gate whole, and on its hinges? Are the domestic animals excluded from immediate connexion with the dwelling house, or at least from the front yard? Is there a green plot adjoining, well protected from pigs and poultry, so that the excellent housewife may advantageously spread and bleach the linen and yarn of the family? Is the wood pile well located, so as not to interfere with the passenger; or is it located with especial eye to the benefit of the neighbouring surgeon? Is it covered, so that its work may be done in stormy weather? Is the well convenient; and is it sheltered, so that the females of the family may obtain water without expo-

sure, at all times and at all seasons? Do the subsidiary arrangements indicate such contrivance and management as that nothing useful should be lost, and nothing useless offend? To this end, are there drains, determining what is liquid in filth and offal to the man yard, or the pens? Are there receptacles for what is solid, so that bones and broken utensils may occasionally be carried away and buried? If all this be done, it is well; and it, in addition to this, a general air of order and care be observable, little more is to be desired. The first proper object of a farmer's attention, his own and his family's comfort and accommodation is attained. Every thing about him indicates that self-respect, which lies at the foundation of good husbandry, as well as of good morals. But if any of us, on our return home, should find our door barricaded by a mingled mass of chip and dirt; if the pathway to it be an infatid pavement of bones and broken bottles, the relics of departed earthen ware, or the fragments of abandoned domestic utensils; if the deposit of the sink settle and stagnate under the windows, and it is neither determined to the barn yard, nor has any thing provided to absorb its riches, and to neutralize its effluvia; if the nettle, the thistle, the milkweed, the elder berry, the barberry bush, the Roman wormwood, the burdock, the dock and the devil's apple, contend for mastery along the fences, or flower up in every corner; if the domestic animals have fair play round the mansion; and the poultry are roosting on the window stools, the geese strutting centry at the front door, and the pig playing puppy in the entry,—the proprietor of such an abode may call himself a farmer, but practically speaking he is ignorant of the ABC of his art. For the first letters of a farmer's alphabet are, neatness, comfort, order.

As we proceed to the farm, we will stop one moment at the barn yard. We shall say nothing concerning the arrangements of the barn. They must include comfort, convenience, protection for his stock, his hay, and his fodder; or they are little or nothing.—We go thither for the purpose only of looking at what the learned call the stercorary, but which farmers know by the name of the manure heap. Will our friends from the city pardon us, if we detain them a moment at this point? Here we stop the rather, because here, more than anywhere else, the farmers of Massachusetts are careless and deficient; because on this more than on anything else, depends the wealth of the farmer; and because this is the best criterion of his present, and the surest pledge, of his future, success. What then is its state? How is it located? Sometimes we see the barn yard on the top of a hill, with two or three fine rocks in the centre; so that whatever is carried or left there, is sure of being chiefly exhaled by the sun, or washed away by the rain. Sometimes it is to be seen in the hollow of some valley, into which all the hills and neighbouring buildings, precipitate their waters. Of consequence all its contents are drowned, or water-soaked, or what is worse, there having been no care about the bottom of the receptacle, its wealth goes off in the under strata, to enrich, possibly, the antipodes. The Chinese, for aught we know, may be the better for it, but it is lost for ever to these upper regions.

Now all this is to the last degree wasteful, absurd, and impoverishing. Too much cannot be said to expose the loss and injury, which the farmer thus sustains. Let the farmer want whatever else he pleases. But let no man call himself a farmer, who suffers himself to want a receptacle for his manure, water-tight at the bottom and covered at the top, so that below, nothing shall be lost by drainage, and above, nothing shall be carried away by evaporation. Let every far-

mer, wanting such protection for his manure, be as-sured that he loses, by the sun and rain, tenfold as much as will pay all his taxes, state, town, and national, every year. Let not the size of his manure heap be any objection. If it be great he loses more, and can afford the expense the better. If it be small, this is the best way to make it become greater. Besides, what is the expense? What is wanted? An excavation, two or three feet deep, well clayed, paved, and "dishing," as it is called, of an area from six to thirty feet square, according to the quantity of manure, over head a roof made of rough boards of refuse lumber, if he pleases. The object being to shut out the action of the sun and cast off the rain, so that no more should come upon his manure heap than the farmer chooses. This he regulates by spouts at his discretion.

Time will not permit us to stay long upon the farm; we will go out upon it, only for the purpose of making a single observation, and that in relation to the fences.

It is thought to be a great virtue in a farmer to build good fences. And so it is. None can be greater, so far as relates to external fences; those which bound on the road, or a neighbour. They ought to be perfect and sufficient against every intrusion. But when the remark is applied to interior fences, it is often far otherwise. The making and keeping in repair unnecessary fences is one of the greatest drawbacks from the profitable employment of the labour of our farmers. Every year new fencing stuff must be brought, or stone walls must be built and stone walls repaired. Much of that time and capital are expended about these objects, which ought to be employed in collecting manures, in ploughing their land, or in some labour directly conducing to the prosperity of the immediate, or ensuing crop.

The adopting of a single principle, in relation to the management of their fences, would save at once one half of all their interior fences. I allude to the making the distinction between arable and pasture lands permanent, and adopting it as a principle, that no beasts should be permitted to range upon the soil destined to the plough and the scythe.

I know that this proposition will be received by many with surprise, and by some with a sneer. But consider of it farmers. Be assured that the practice of grazing your mowing lands is the falsest of all that bears the name of economy. It is impossible, in a discourse so general as this necessarily is, to give all the grounds of this position. I look at the subject now, only in relation to saving the expense of making fences and repairing them. Let any farmer of middle age take his pencil and calculate what it has cost him, and his ancestors, in the course of his and their lives, to make and maintain real fences, or stone walls upon their farms. I am mistaken if one half of the farmers do not find the expense far exceed their present conception, and if the other half do not find, that, at a fair estimate of materials, labour, and interest, the cost of these fences or walls has been more than the whole farm would now sell for under the hammer.

Now more than half of all the stone walls and rail fences in Massachusetts are interior fences dividing lands belonging to the same proprietor. These interior fences are absolutely useless, except for the purpose of enabling the proprietor to pasture his mowing land. They are worse than useless on exclusively arable land. These walls are in fact harbours for all sorts of vermin; for field mice, and woodchucks and skunks and squirrels. Then, on both sides, what a rare assemblage always of elderberries and hawthorn bushes, and nettles, and all sorts of injurious weeds! Thus not only much land is lost, but worse than lost. There is done a positive injury. Besides, when the plough be ins to run, what then? Why, upon many farms, you cannot run a plough forty rods in a straight line, without coming, as farmers say, "plump" upon a stone wall. Then what a "hawing and jeeing!" And the good natured fellow, at the front yoke, must always take time to crack his joke, or to have "a cup of comfort," with the good natured fellow at the plough tail. And all this at the direct and positive loss of the owner of the land, or the employer!

But our lands are full of stone, what shall we do

with them? Certainly there is no absolute necessity of building them up in the shape of a stone wall. If there be, then thicken, or heighten, your external walls. But this is done already. Well, then, have you never a pinhole to fill up? Is there no useless hollow, into which they may be thrown? If nothing of this kind can be done with them, better pile them up pyramidically, and cover them with grape vines, then go to the expense of building walls, worse than useless.

Let me not be understood to intend, that good farming requires that farmers should level, or remove the walls, or fences, which they, or their ancestors, have already provided. The condition of every man's farm is in this respect, a particular fact, by which the calculations of his business should be made, and his conduct, in relation to it, governed. The only object of these remarks is to invite farmers, who are contemplating building new walls, or purchasing new materials for interior fences, to consider, whether their own and oxen's labour may not be better employed; and whether grazing the land, intended to be fenced, be in fact a compensation for the great expenditure, they are about to incur, of the only capital, they have generally at their command.

Farmers should never, one moment forget that their and their oxen's labour constitute their capital, and that they should be wasted in no object, which does not add something to the present or future years' actual product. It is not too much to say that the capital expended in rail fences and stone walls, which are useless in Massachusetts, would, if it had been applied in collecting manures and in deepening the soil, have added, at this day, a third part to the income of every farmer in the country.

Let every farmer divide his pasture ground as he pleases. Let the fence between his arable and pasture land, be as strong as an external fence. But, if possible, let all his arable ground, though it be a hundred acres, be in one lot. Then his plough runs clear, in a long furrow. His tillage is divided only by the different species of grain and vegetables, he cultivates. There are no fences; of consequence no inconvenient and worthless headlands; no apology for thistles and nettles. The scene is beautiful to the eye. The whole has the appearance of a garden; and begets in the farmer a sort of horticultural neatness.

Before passing to treat, very briefly, the remaining topic of discourse, may I be permitted to say a word on the style of our buildings? It will be worth the time, if it make only one man, about to build, consider.

The fault is not peculiar to farmers, it is true of men, in almost every rank and condition of life, that when about to build, they often exceed their means, and almost always, go beyond the real wants of their families, and the actual requisition of their other relations in life. But let not the sound, practical, good sense of the country be misled, by the false taste and false pride of the city; where wealth, fermenting by reason of the greatness of its heaps, is ever finding away in palaces: the objects of present transitory pride; and too often, of future, long continued repentance.

Now, what do we sometimes see in the country? Why a thriving farmer, touched with this false taste, will throw up a building thirty, or forty feet square, two, or two and a half stories high, four rooms on a floor, with an immeasurable length of out-building behind. And what is the consequence of all this greatness? Why often, for years, the house will not be wholly glazed; or, if glazed, not clap-boarded; or, if clap-boarded, not finished; the destined partition is never put up; the destined front step is never put down; and the ragged clap boards, on each side of the front door, there they stand, year in and out, staring and gaping at each other, with a look of utter despair of ever being united. And if you go into these mansions, what do you see? Why, you will often find, that while the good man of the house and his consort are snugly provided with warm, well plastered rooms, the children and all the rest of the family sleep about in unfinished chambers, subject to every sort of exposure; and "the best room," as it

stands, the lumber room of the family, for half a century; the select and eternal abode of crickets and cockroaches; and all sorts of creeping and skipping things; full of old iron and old leather; and the stuffing of decayed saddles; the ragged relics of torn bed quilts; and the orts and ends of twenty generations of corn cobs.

When will man learn, that his true dignity, as well as happiness, consists in proportion? In the proportion of means to ends; of purposes to means; of conduct to the condition of life, in which a kind Providence has placed him; and to the relations of things concerning which, it has destined, he should act!

The pride of the farmer should be out, in his fields. In their beauty, in their order, in their product, he should place the gratification of his humble and honourable ambition. The farmer's great want is capital. Never should his dwelling be splendid at the expense of his farm. In this, all that is surplus, in his capital, should concentrate. Whatever is uselessly expended elsewhere, is so much lost to his family and his fortune.

I shall now recur, briefly, to another class of deficiencies, the want of system in the plans of our farmers.

System relates to time, to courses and to modes of husbandry. A full elucidation of each topic would embrace the whole circle of farming dispositions and duties. The time will not permit any thing more than a recurrence to one, or two, leading ideas. Want of system, in agriculture, leads to loss of time and increase of expense. System, has chief reference to succession of crops; to sufficiency of hands; and to selection of instruments. As to the succession of crops, called rotation, almost the only plan of our farmers is to get their lands into grass as soon as possible; and then to keep them, in grass, as long as possible. The consequence of this practice, for it deserves not the name of a system, is to lead to the disuse, or rather to the least possible use of that great source of agricultural riches—the plough. Accordingly, it has almost become a maxim, that the plough is the most expensive of all instruments; and of consequence as much as possible to be avoided. And so it is, and so it must be, as the business of our farms is managed. By keeping lands down to grass, as long as possible, that is, as long as the hay product will pay for mowing and making, the consequence is, that our lands, when we are obliged reluctantly, to put the plough into them, are bound and matted, and cross-barred, with an impervious, inextricable, infrangible web of root and sod. Hence results a grand process, called "a breaking up," with four, five, or six head of cattle, as the case may be, with three men, one at the oxhead, a second at the plough beam, and the third at the plough-handle. Is there any wonder that such a ploughing apparatus is an object of aversion?

It is impossible for any man to witness "a breaking up" of this kind, without being forcibly reminded of the reflection made by a dry Dutch commentator, on that passage in the book of kings, where it is said, that Elisha was found "ploughing with twelve yoke of oxen." "Well," said the commentator, "it is no wonder, that Elisha was glad enough to quit ploughing, for prophecy, if he could not break up with less than twelve yoke of oxen."

In fact, the plough is the natural instrument of the farmer's prosperity, and the system of every farmer ought to have reference to facilitating and increasing its use. Let a rotation be adopted, embracing two or three years successive ploughings, for deepening and pulverising crops, to be succeeded by grain and grass, for two or three years more. The plough, on its return, every five, six, or seven years, finds in such case, the land mellow, soft, unimplicated by root, and tender in sod. The consequence is, that "a breaking up" is then done with one yoke of oxen and one man. The expense is comparatively small. There is nothing to deter, and every thing to invite the farmer to increase the use of that most invaluable of all instruments. It ought to be a principle that our farming should be so systematized

that an "breaking up" should be done with one yoke of oxen and one man; who both drives and directs the plough.

Systematic agriculture also requires sufficiency of hands. Whatever scale of farming any man undertakes to bid, hands enough to do it well are essential. Although this is a plain dictate of common sense, yet the want of being guided by it in practice, is one great cause of ill success in our agriculture. Because we hear every day, that "labour runs away with all profits in farming," almost every farmer lays it down as a maxim, to do with as little labour as possible. Now this maxim almost always results in practice, in doing with less than he ought. The effect is almost every where seen in loss of time—loss of season, loss of the employ of working cattle, and loss or deterioration of crop. Now, in truth, labour, as such, never yet diminished any man's profit, on the contrary, it is the root and spring of all profit. Labour, unwisely directed and unskillfully managed, is indeed a great consumer of the farmer's prosperity. But labour wisely directed and skilfully managed, can, from the nature of things, result in nothing else than profit. What is skilful management and what is wise direction of labour, opens a field almost boundless; and not to be attempted on the present occasion. A single remark must suffice. The great secret of European success in agriculture is stated to be "much labour on comparatively little land." Now the whole tenor of Massachusetts husbandry, from the first settlement of the country, has been little labour, on much land. Is it wonderful then that success should be little or nothing, when conduct is in direct violation of the principle, on which success depends.

With respect to utensils too, system requires that they should be the most perfect of their kind; and always the most perfect in their state.

* Great profits in agriculture can result only from great improvements of the soil. Great improvements of the soil can result only from unremitting industry. The chief study of every farmer should be what is useful and what is useless expense in relation to his art. The discrimination between these is the master key of the farmer's prosperity. The first should be incurred with a freedom, little short of profusion. The last should be shunned as the sailor shuns the rocks, where are seen the wreck of the hopes of preceding mariners.

In this art, and almost in this art alone, "it is the liberal hand which maketh rich."

Liberality, in providing utensils, is the saving both of time and of labour. The more perfect his instruments the more profitable are they.

So also is it with his working cattle and his stock. The most perfect in their kinds are ever the most profitable.

Liberality in good barns, and warm shelters, is the source of health, strength, and comfort to animals—causes them to thrive on less food, and secures from damage all sorts of crops.

Liberality also in the provision of food for domestic animals, is the source of flesh, muscle and manure.

Liberality to the earth, in seed, culture and compost, is the source of its bounty.

Thus it is in agriculture, as in every part of creation, a wise and paternal Providence has inseparably connected our duty and our happiness.

In cultivating the earth, the condition of man's success is, his industry upon it.

In raising domestic animals, the condition of his success is, kindness and benevolence to them.

In making the productiveness of the earth de-

* I am indebted, partly for the general turn of thought, and for some of the expressions in a few of the ensuing paragraphs, to a work entitled *Arator*, by John Taylor, Esq. of Caroline county Virginia, a work principally destined to meliorate the agriculture of the state, of which the author is a citizen—but written so far as it relates to its agricultural tendency in an admirable spirit, and abounding in reflections at once practical and philosophical.

pend upon the diligence and wisdom of the cultivator, the Universal Father has inseparably connected the fertility of his creation with the strongest intellectual inducements, and the highest moral motives. In putting the brutal world under his dominion, he has placed the happiness of which their nature is susceptible, under the strong guarantee of man's interest.

Instead therefore of repining at his lot, let the cultivator of the ground consider his, as among the highest and happiest of all human destinies—since in relation to the earth, he is the instrument of heaven's bounty; in relation to the inferior orders of creation, the almoner of Providence.

From the Albany Argus.

Treatise on Agriculture.

SECTION XI.

OF MEADOWS.

These are either natural or artificial; the former containing only plants of spontaneous growth; the latter, those selected, sown and cultivated by man. The better to keep this distinction in view, we shall speak of them separately—and

1. Of Natural Meadows.

These have been classed by botanists according to their elevation; and have thence been denominated, high, middling, and low. But as this principle fails altogether to indicate their agricultural character and properties, (1) a better one has been found in their relative moisture; whence they are denominated dry, or moist or wet. The products of these have been carefully and skilfully analysed in Germany, in Italy, in England, and in France, (2) and the result shows, that wet meadows contain the smaller number of the different species of plants, but the greater number of those which are either useless or injurious; and on the other hand, that moist meadows contain the greater number of the former, and the smaller number of the latter. The following simple table exhibits at a glance, the present state of knowledge on this important part of our subject.

Whole number of plants in wet meadows,	30; useful 4, useless or bad, 26
Do in Dry meadows, 58; do	8, do 30
Do moist meadows, 42; do	17, do 25

The agricultural labours suggested by these facts are of two kinds—the eradicating of useless or pernicious plants, and the continuance and multiplication of those which are good. The first of these objects is promoted by mowing the meadows before the seeds of noxious plants ripen, by pasturing them once in three years, by sheep, horses and cattle, in succession; by harrowing them in the spring and fall; by weeding and hoeing them; and lastly, by sufficiently draining those that are wet.

Many pernicious plants are annuals, and are killed by the first of these operations. A similar effect is produced by the second; the harrow or scarifier will best destroy mosses or other weeds whose roots are fibrous and superficial; the hand hoe will extirpate such tap rooted plants as resist the harrow and are refused by cattle, and draining will expel all worthless aquatics.

Of these remedies, the last may require some explanation. Meadows are wet from different causes—from obstructions, (accidental or permanent) to the course of rivers; from occasional inundations, from high and uncommon tides, from neighbouring springs issuing sometimes above and sometimes below the level of the grounds you wish to drain, and frequently from others rising up within the meadows themselves. In the first case the remedy is obvious, and consists altogether in removing the obstructions; in the second and third, embankments as in the Mississippi and Delaware will exclude the flood; and in

(1) We often find bogs on the tops of mountains, and arid sands on the banks of rivers.

(2) See Observations made by the Agricultural Society of Great Britain, and *Mémoires sur l'Agriculture du Boulonnais*, &c. per M. Dumont de Courtil,

the fourth and fifth, the cure lies in erecting a surface of lower level than that of the meadows to be drained, or in raising the water to a level above that of the meadows, and carrying it off by race ways or canals, the former of these methods is to be executed by ditching or by digging through the sub-soil into sand or gravel, whence the water will find a subterranean passage. The latter is effected by enclosing the springs within walls and permitting them to rise to the level of their own source. It is evident however, that if these be not higher than that of the meadow, the experiment will fail. (3)

The second object, (the multiplication and continuance of good plants) will be ensured by scattering in the fall or spring, or both, (after the harrow or scarifier,) the seeds of useful grasses, (+) particularly upon places rendered raw or bare by the harrow or the hoe; by covering the meadows in the fall with straw, dung, lime, or manure; and in the spring, with plaster of Paris or ash; by folding or parking sheep or horned cattle, during the summer and while the ground is hard, on places requiring manure; by tuddering on such places during the winter; and lastly, irrigation. This last and most efficient method of bettering the condition of meadows, is sometimes characterised by the duration of its means and sometimes by the mode of applying them. In the first case, it is called temporary or permanent, as the stream it employs may be the one or the other. In the second case it is denominated filtration or submersion, according to the effect produced. If for instance, the surface be only wetted by running water, it is called filtration, but if entirely covered with water, in a state of rest, it is called submersion. These different modes have some principles common to both, and some peculiar to each.—

The common principles are,

1st. Such command of water as will cover the largest surface with the least labour and expense.

2d. Muddy water, (the effect of loosened soil and heavy rains) is most favourable to vegetation, because, besides giving the necessary moisture, it furnishes a considerable portion of alluvial matter.

Water, charged with sand or gravel, or containing iron or vitriol, or of a temperature very hot or very cold, is unfavourable to vegetation, and ought not to be employed, until, by standing in reservoirs, it deposits these injurious matters, in the one case and in the other, acquires the temperature of the atmosphere.

4th. Clay and calcareous soils, require less watering than others.

5th. Irrigation is of less importance in northern than in southern latitudes; and

6th. In cold climates, or in situations of much elevation, irrigation is most usefully employed in the spring and autumn; and in hot climates and sandy soils in the summer.

The principles peculiar to the two modes may be collected from the following brief detail of the labours necessary to each. In irrigating by submersion the first and great labour is to make a dam, of such strength, as shall resist the volume of water by which it may be pressed; of such height as will raise the water above the level of the ground you wish to overflow, and of such structure as will enable you to discharge the water it collects promptly and entirely. The signal for doing this, is the rising of air bubbles, from the bottom of the pond, which never takes place until a decomposition of the plants below begins. In the winter this tendency to decomposition is corrected by cold, and the submersion may of course be continued for weeks and months, and the water permitted to freeze not only without injury, but with great benefit to the plants, particularly if they have been closely pastured in the fall.

(3) See Anderson's *Essays on Agriculture*, vol. 1, page 119, &c.

(4) In selecting these grasses, care should be taken to employ those most resembling the spontaneous growth of the field, or in other words, those which flower and seed at the same time with this spontaneous growth

Filtration is a process requiring, in general, more labour and science than the other; because, besides a dam, to raise a sufficient head of water, you must have your canal of derivation, your reservoir, your cuts or ditches, and lastly your fosse of discharge—which, to be useful, must be well constructed and judiciously placed. The canal and reservoir will necessarily occupy the highest ground, and be proportioned to the quantity of water to be conducted and retained; the cuts or ditches, supplied from the reservoir, will be paralleled to each other, of nearly equal descent, but of diameters diminishing in proportion to their length, so as to give to the water the same swiftness it had when its volume was greatest. Stops or gates must be made in the cuts or ditches, in such number as may be necessary so to pond the water as to make it overflow the lower sides of the ditches, and at such points as will from the shape of the ground, diffuse it most generally. In this way, small streams, occasional showers, and dissolving snows, may be turned to great account, and with this additional advantage, that they require no reservoirs, and little if any draining, and only cuts or ditches formed with a plough or a hoe.

A third kind compounded of the two others, is sometimes seen in Europe, where the water, after being employed in irrigating the sides of hills, is brought upon flats for the purpose of inundation, or more generally from that of forming reservoirs, from which it may again be raised by machinery, such as the noria of the Moors, or the hydraulic ram of Montgolfier, &c. (5)

II. Of Artificial Meadows.

We have seen that natural meadows abound in plants, either useless or pernicious; and that it is among the principal labours of agriculture to eradicate these, and to substitute for them others of greater product or better quality. It was probably this process, that first suggested the idea of artificial meadows, or those composed only of plants of our own choosing and alternating with grain or root crops. And it cannot be doubted, but that if the grasses selected be good in themselves, adapted to the soil and carefully cultivated, we thus arrive at the highest possible degree of perfection, of which this branch of the art is susceptible; because, besides having only wholesome and nutritive forage, we double its quantity, and at the same time, put the soil in a state to give us a series of good subsequent crops.

France claims the credit of having been the first to discover the value, and introduce the practice, of this new system; and it may not be amiss to collect some of the reports of her writers, on the agricultural changes wrought by it. "If," says Yvart, "meadows be the nerve of good husbandry, it is, above all, to artificial meadows we must apply this great truth. The state of those cantons, which have adopted the new system, is now as brilliant as it was before wretched and miserable. Alsace has put on a new face since the introduction of clover, and wheat crops have been increased more than one third. The village of Sebach, under the old system, bought annually 180,000 pounds of forage, and now sells 150,000.

The canton of Varen, which gave formerly only rye and buckwheat, (and poor crops of these,) now gives abundant crops of fine wheat. This is altogether owing to clover and gypsum. The same remark applies to the department of Doubs. In the department of the Seine and Oise, the four year rotation is adopted, of which clover is the basis, and more than doubles the produce for exportation. In Varrenne, the soil of which is a poor sand, the same effect is produced by sainfoin, instead of clover. In a canton of the department of Loiret, M. Sageret has

(5) Whoever may have occasion to study the two subjects (draining and irrigation) either separately or in connexion, cannot do better than to consult the Hydraulic Architecture of Bellidor, the Hydraulics of Dubuat, M d'Ourche's General Treatise on Meadows. DeLuc on the embankments of Holland, and Richardson's Agriculture.

doubled his income, by the introduction and culture of lucern." It would be a mere waste of time to multiply quotations on this head. Few men of our own country, who have had their eyes open for some years past, but must have seen the wonderful effects produced by plastered clover; and if there be any who resist these evidences, or are insensible to them, they must be far beyond the reach of instruction. We hasten, therefore, to another and important part of our subject—the choice of grasses for artificial meadows. Those most recommended, by the experience of all countries, are lucern, sainfoin, and clover of the leguminous family, and timothy, oat grass, ray-grass, and meadow fox tail, of the gramineal. We shall say a few words of each; and, 1st, of Lucern; this plant is a native of Media, whence its Latin name Medica. It was well known and highly esteemed by the ancients, uniting in itself many valuable qualities—early fitness for use, great productiveness, and duration, (6) and juices, the most nutritious and acceptable to cattle. In the south of Europe, it still maintains this high reputation, and in our southern climates, would entirely deserve it; but of its success here, we have doubts, founded on the fact, that all attempts made to introduce it, and coming within our own observation, have failed. Two conditions are, however, indispensable to its prosperity in any climate: and these are, a rich soil, and careful cultivation. In wet, or stony, or stiff ground, it does not thrive.—Its long tap-root must plunge into the earth, without obstruction, otherwise the plant suffers and dies prematurely.

2d, Sainfoin: this grows well in Europe, as high as the degree of north latitude. A species of it is found growing spontaneously in the Pays de Calais, which shows itself earlier than the more common or Spanish species.—Its produce is less than that of lucern; but the quality of its herbage, whether green or dry, is better.—Sheep are particularly fond of it. It affects high, dry, naked, white, cretaceous soils, meliorates the condition of these, and holds them better together, than any other plant. The following extract may give both instruction and encouragement to those who would cultivate this plant: "In Calabria, the sainfoin is sown upon wheat or other stubble, which is then burnt, and the ashes made to furnish a covering for the grass seed. In the spring, without other care or culture, the field is found covered thickly with sainfoin, and converted into a fine meadow. This grass crop is cut and fed, between May and August; when the ground is ploughed for grain, the crop of which is generally very abundant. But the advantages of this husbandry do not end here; for after the grain is harvested, the earth resumes its covering of sainfoin, which, in this way, is continued forty years and more, admitting every second year a crop of fine wheat," (7.)

3d, Like sainfoin and lucern, Clover is of the leguminous family, and, though less productive than the other has one advantage that gives it a decided preference, viz: its growing well in a great variety of soils. In gravel, in loam, in alluvial and calcareous earths it does well, and we have already seen that in poor and sandy soils it doubles the income of those who employ it—as well by increasing the quantity of forage, as by putting the ground into a state to yield many and abundant future crops of grain. Still there are soils (stiff cold and wet) in which it does not succeed, and ought to give place to the gramineal family.

4th, Timothy: This grass, in Europe, is called nerd-grass, cats tail, or pileum pratense, (the botanical name;) but as the plant is of Yankee origin, we have chosen to retain the Yankee denomination. Its reputation abroad was at one time very high, and in moist grounds deserved to be so at all times; but being very tardy in showing itself in the spring, it has in many places, fallen into disuse.

5th, Ray or Rye grass, (to the good properties of

(6) "Tante dos est ejus et eum uno setu tricenarius daret mendica." Plin. Nat Hist.

(7) Grimaldi on the agriculture of Calabria.

timothy) superadds that precocity which timothy wants. "We have seen," says Gilbert, "in the canton of Basle, rye-grass five feet high, on the first day of June;" and M. de Courset assures us, that he has obtained "three cuttings from it in one year."—Sheep are found to prefer it, in the spring, to any other plant; and the shepherds of Spain have a proverb, which very energetically expresses its nutritive qualities: "Boueca o vau ventrado," a mouthful is a belly full. We particularly invite the attention of farmers having clay, or other moist or wet soils, to the cultivation of this and the two following species of grasses.

6th, Oat grass, the Avena elatior of botanists, was first cultivated in 1754, and having been committed to a good soil, the results were highly favourable.

It was accordingly recommended as yielding abundance of forage, and of a good quality; and that the first cutting might take place as early as the last of March. Though new and extended experiments have, in some degree, diminished this reputation, still enough of it is left to render this grass a favourite, with every scientific agriculturist.

7th, Of the Meadow Fox tail there are four species; but we shall speak only of the Alopecurus pratensis, which, of all the grasses we have mentioned, is the tallest, the most vigorous, and the soonest fit for pasturage or the scythe—its hay appears to be of a better quality than that of any other of the gramineal grasses, because equally relished by cows, horses and sheep. It only however, in soils neither too moist nor too dry, that it attains the perfection of which it is susceptible.

What remains of this subject, may be referred to the general principles of tillage, and the particular preparation necessary for clover crops, both of which may be found in the preceding sections.

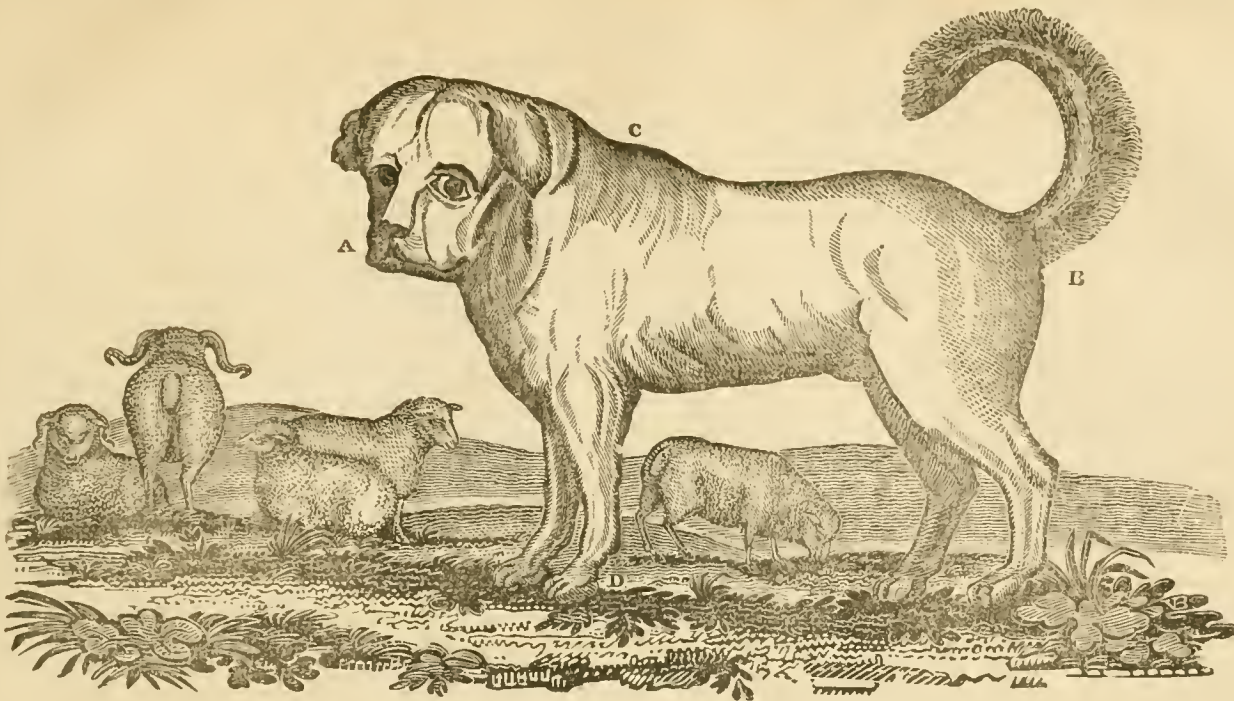
For the American Farmer.

Arlington House, near Alexandria, Feb. 1, 1820.

WOODEN SOLED SHOES.

Mr. Curtis of Arlington, in a letter to the Editor, observes,—"Wooden soled shoes, are the very best shoes, for labourers of all colours, that I ever met with, but more especially for negroes.—They keep the feet warm and dry in ditching, and in all kinds of labour, to be performed out of doors in winter, and are a saving in expense, of fully 80 per cent. My people are all shod in this way, and themselves declare, that they never were so comfortable in their feet before, while my leather bill from \$100, has been reduced to scarce \$20.

You form the sole, after the appearance of the leather sole and heel, the wood about half, or three fourths of an inch in thickness, around the upper edge, is cut a rabbit, into which is nailed (with ordinary sized tacks) the upper leather, not a particle of thread is needed, except to close the two parts of upper leather. Every man may be his own shoemaker, and a man would put together a dozen pair a day. In slippery weather, small plates of iron are nailed around the toes and heels, and frost nails driven in them, which also protects the sole from wear. Gum, ash, or dogwood, are best for the soles, and about two sets of soles, will last the winter.—The feet are never cold, or wet, and hence will be remedied those chronic pains and evils, to which negroes are subject, from exposure to cold and wet. For any purpose but a foot race, these are the very best shoes; and I doubt whether even Sir Humphrey Davy has made a more useful discovery, in the last twenty years.



MONTAGNE; A SHEPHERD'S DOG.

Account of Montagne,

A Shepherd's Dog.

By MR. P. BAUDUY, of Delaware.

From the Memoirs of the Philadelphia Agricultural Society.

Read February, 1814.

Dear Sir :

I received your letter of the 27th inst. It was the first knowledge I had of the information you requested, respecting the dogs imported from Spain. I think that too much cannot be said, to encourage their propagation throughout the United States. Therefore I recommend the subject to your able pen.

We have heretofore laboured under very great disadvantages with regard to our flocks; I am at a loss to know, whether the destruction of sheep by dogs in this country does not exceed that by wolves in Europe. The imported dog from Spain is a very great security to our flocks.

I will not undertake to determine from what breed he springs. Buffon thinks that the shepherd dog is the root of all the canine race. The dog you inquire after is three times as large as the shepherd's dog described by Buffon; but is endowed with the same good qualities; immense strength, great mildness in the usual deportment, though ferocious towards other dogs. I can say, without exaggeration, that at least 20 dogs have been killed in my barn yard or on my farm by him; but this good quality is like all things in this world attended with an evil; for I find that Montagne has as many enemies as I have neighbours. My fellow citizens have no objection to their dogs destroying my sheep, but a very great one to see my dog kill their dogs; here, Sir, I want your help, here the welfare of the country requires your eloquence, to prove that it is un-

generous and selfish, to prefer the death of a valuable Merino, to that of an insignificant whelp or cur.

I annex to this a picture of Montagne, with his dimensions; he is a fine animal, *entirely white*. I prefer that colour in recollection of the story of old Jacob. In fact I had formerly a black dog, and many of my lambs were born black.— Since I have Montagne and his mother, I have very few black lambs.

The natural instinct of this animal is to guard your sheep against wolves and dogs; no other training is required but to keep them constantly with your flock, the moment they are from the litter, until they are grown.

P. BAUDUY.

Dimensions of Montagne, who is 18 months old.—3 feet 11 inches from A to B—2 feet 8 inches from C to D.

Shepherd's Dog.

From the London Sportsman's Cabinet.

This dog is the most timid, obedient, placid, serene, and grateful in the creation: he seems studiously conscious of the purposes for which he was formed, and is never so perceptibly gratified as when affording the most incessant proofs of his unsullied integrity.—Instinctively prone to industry he is alive to the slightest sensation of his employer, and would rather double and treble the watch line of circumspection, than be seen indulging in a state of neglectful indolence. The breed is propagated and preserved with the greatest

respect to purity in the northern parts of the kingdom of England, as well as the highlands of Scotland, where in the extensive tracts and uncultivated wilds, their services exceed description.

Constitutionally calm, patient and philosophic, the sheep dog seems totally lost to every appearance of novelty, and insensible to every attraction beyond the protection and indefatigable preservation of the flock committed to his charge. In the most sequestered and remote spots, dreary wilds and lofty mountains, almost inaccessible to man, this dog becomes an incredible and trusty substitute; for once initiated in the ground-work of his office, he soon acquires a perfect knowledge of the extent of his walk, as well as every individual of his flock, and will as regularly select his own, and disperse intruders as the most faithful and attentive shepherd in existence. This becomes more extraordinary to the contemplative mind, when it is recollected what immense flocks are seen to cover the downy hills of Hants and Wilts, as far as the eye can reach without control: and to know that by a single signal from the shepherd, this faithful, sagacious animal, replete with energy, vigilance and activity, will make his circle so as to surround a flock of hundreds, and bring them within any compass that may be required.

The sheep dog is so completely absorbed in what seems to be the sole business and employment of his life, that he does not bestow a look, or indulge a wish beyond the constant protection of the trust reposed in him, and to

execute the commands of his master; which he is always incessantly anxious to receive and in fact is invariably looking for by every solicitous attention it is possible to conceive. Inured to all weathers, fatigue and hunger, he is the least voracious of the species, subsists upon little, and may be justly considered truly emblematic of content. Though there is the appearance of a somniferous indolence in the exterior, it is by no means a constitutional mark of habitual inability; on the contrary the sagacity, fidelity, and comprehensive penetration of this kind of dog, is equal to any other; but there is a thoughtful or expressive gravity annexed to this particular race, as if they were absolutely conscious of their own utility in business of importance, and the value of the stock so confidently committed to their care.

Amidst the infinity of cases so constantly issuing from the press, in which proofs almost incredible are authentically adduced of the courage, sagacity, fidelity, gratitude, and self-denial of different kinds of dogs, many are to be found appertaining to this particular race; if they are not so numerous as some other sorts, it may be fairly attributed to the little proportional chance they have (from their remote and sequestered employment) of displaying those powers in an equal degree with dogs more engaged in the bustle of human society.

Dr. Anderson (in his translation from Dr. Pallas) introduces the following instance of sagacity in a shepherd's dog, which he considers truly astonishing; and it will create no surprise with those who are in the least acquainted with their perfections.

"The owner himself having been hanged some years ago for sheep stealing, the following fact, among others respecting the dog, was authenticated by evidence upon his trial. When the man intended to steal any sheep, he did not do it himself, but detached his dog to perform the business. With this view, under pretence of looking at the sheep with an intention to purchase them, he went through the flock with the dog at his feet, to whom he secretly gave a signal, so as to let him know the individuals he wanted, to the number of ten or twenty, out of a flock of some hundreds; he then went away, and at a distance of several miles sent back the dog by himself in the night time, who picked out the individual sheep that had been pointed out to him, separated them from the flock, and drove them before him by himself, till overtaking his master to whom he relinquished them.

"The shepherd's dog rather shuns strangers, of whom he always appears to be shy and suspicious; it being remarkable, that when refreshing upon a journey with the flock, he seldom reposes but close to the feet

or body of his master, who well knows if he but deposits his coat or his wallet, and gives the animal the accustomed signal; when the sheep are at pasture, he may absent himself for hours, and at his return find the whole as safe and regular as it had been under his own inspection. Although it is already observed, these dogs afford no evident external proof of quick conception, or rapid execution. (except in all matters relative to the flock, to which their every faculty appertains) yet their sagacity and fidelity is found equal to every other branch of the species, when necessarily brought into useful action.

"In the month of February 1795, as Mr. Boulstead's son, of Great Salkeld, in Cumberland, was attending the sheep of his father upon Great Salkeld's common, he had the misfortune to fall and break his leg. He was then at the distance of three miles from home, no chance of any person's coming, in so unfrequented a place, within call, and evening very fast approaching; in this dreadful dilemma, suffering extreme pain from the fracture, and laying upon the damp ground at so dreary a season of the year, his agitated spirit suggested to him the following expedient; folding one of his gloves in his pocket handkerchief, he fastened it round the neck of the dog, and rather emphatically ordered him "home." These dogs trained so, admirably to orders and signals during their attendance upon the flock, are well known to be under the most minute subjection, and to execute the commands of their masters with an alacrity scarcely to be conceived.

Perfectly convinced of some inexplicable disquietude from the situation in which his master lay, he set off at a pace, which soon brought him to the house, where he scratched with great violence at the door for immediate admittance. This obtained, the parents were in the utmost alarm and consternation at his appearance, but more particularly when they had examined the handkerchief and its contents. Instantly concluding beyond a doubt, that some accident had befallen their son, they did not delay a moment going in search of him; and the dog, apparently conscious the principal part of his duty was yet to be performed, anxiously led the way and conducted the agitated parents to the spot where their son lay overwhelmed with pain, increased by the awful uncertainty of his situation. Happily this was effected just at the close of day, when being immediately removed, and the necessary assistance procured, he soon recovered and was never more pleasingly engaged, than when reciting the sagacity and gratitude of his faithful follower, who then became his constant companion."

The instances of intelligence in the shepherd's dog, are recorded in all books treating of the manners and habits of the dog tribe. One more may be mentioned from a recent publication. It is given for the purpose of stimulating the American Farmer to possess himself of one of the breed as soon as possible. Speaking of the "Curraek of Kildare," the author says. "The commonage is stocked by a prescriptive proportion, attached to the adjacent farms: every

sheep owner has a particular raddled mark; the shepherd's dogs are so trained, that if a sheep with a strange mark, comes on his master's from the dog will single him out and worry him off. See statistical survey of the county of Kildare by T. J. Rawson, Dublin, 1807, p. 121.

J. M.

For the American Farmer.

Salisbury, Lancaster County.

Mr. Skinner,—I have with great satisfaction received and perused all the numbers of your American Farmer, from its commencement, and think them the most useful and interesting set of papers I have ever seen published in our country; that they will continue to be so I have little doubt, they being so well supported by gentlemen of talents and leisure, who will, I hope, find it also their advantage to promote the good of the community. This paper is a source from which much useful information will be derived, on such a variety of subjects relating to Husbandry, and the business that may be connected with it; that it will induce many to communicate their experience and practice, which must in an eminent degree, tend to the improvement and increase of the comforts which our happy country offers to the vigilant and industrious.

Should you consider this worthy a place in your useful repository, I offer you the result of my observations and experience on the destroying insect called the Hessian Fly, and my practice in agriculture since its appearance. I have not been satisfied from whence it derived its existence, but believe it is not a native of our country, as it was not known in Lancaster County until about the year 1789 or 1790, when we first felt the effects of its ravages among our wheat and barley crops. In the American Museum published by Mr. Mathew Carey of Philadelphia, in 1787, it was first announced as spreading in various directions from the state of New York, and most westwardly, at about twenty or thirty miles a year; and I well recollect, that we were very uneasy from the apprehension, that its visit among us would be extremely ruinous, as the farmers of Lancaster County, chiefly depended upon their wheat crops, as their staple, at that time; in the year 1790, my crop of wheat was much of it almost destroyed, as well as my barley. I had been in the practice of sowing spring wheat and barley on my corn stalk ground, both of which were completely destroyed; the spring wheat, so much so, that I could not gather any to continue the seed that year. Many of my neighbours suffered equally, and some of them more than myself; our situation we considered alarming, not knowing that the insect would ever leave us, and grazing not being practised among us, we were the more concerned how to make our farms profitable.

Much inquiry was made for some kind of wheat that would withstand its destructive effects. Information was received, that on Long Island, they had what was called a yellow bearded wheat that the insect did not injure so much; through my friend Levi Hollingsworth, of Philadelphia, I received a barrel of that kind, which I sowed with much care the next seed time, about the 10th of September; but unfortunately, the

heat had been somewhat heated in the cask, being so long put up, that but a moiety of it remained. Although it appeared very thin in the fall, I still hoped to collect seed from it for next year, and see whether it was proof against the insect; 1791, the yellow bearded wheat as well as my other wheat, was materially injured, therefore concluded we must look for some other remedy for our misfortunes, than a change of seed. Many conjectures were advanced as to the particular insect, from which we experienced so much damage; to satisfy myself, I took up a rool of wheat in the month of March, before vegetation began, in which the eggs of the insect were the most abundant; they were of the colour of a ripe flax-seed, longer, and of a different figure. I put the wheat plant into a white 4 ounce vial, with some rich mould, to keep the root alive, and covered the mouth of the vial with paper, and made holes through the paper, to admit air, that the fly might have an opportunity of coming into existence: in the latter end of April, I had the satisfaction to find on the leaves of the wheat plant in the vial, flies very much resembling the common musquito, of the palest kind; its wings appeared of a more delicate colour they seemed weak, and not much inclined to move. I supposed they had come forward sooner than they would have done in the open air, owing to the increased temperature of the room, in which the vial was placed. After having discovered these strangers, I often examined my wheat field, to see if I could find any of the same appearance; I could not find any until about the beginning of May, when on carefully reviewing the ground about the roots of the wheat, I found them of the same appearance of those in the vial in considerable numbers, but not so large; they were very shy, and not easily taken, though they flew at a few feet at a time. I was then satisfied I had discovered my enemy, the next was how to defeat him. I continued to trace the insect, till they had formed themselves into societies, for the purpose of continuing their species: in the month of June, they had again deposited their eggs near the roots of the wheat plants which were then beginning to shoot out their heads; the wheat appeared sickly, or of a yellowish colour, some heads filled with grain and ripened, but at harvest, fell down in various directions, and were with much difficulty gathered. Some people cut their wheat with the grass scythe, and took it into their barns like hay without binding into sheaves.

From these observations, I concluded to sow wheat after some frosts, or cold weather, later than usual, so as to prevent the insect from depositing their eggs in the fall, for the insect could be likely to be destroyed by the cold weather, in the fly state, which might prevent the bringing brood from being so numerous among the wheat plants the next season. Accordingly, the next seed time I manured as much of my ground as I could, intended to be sowed with wheat, with barn yard manure, and deferred sowing till the first week in October, there having been several frosts, with cold mornings, and evenings, my ground was all ploughed up as if sowed, waiting for this change of weather. The wheat was then sowed about one and a half bushel to the acre of different kinds, yellow

bearded, white, and our usual yellow wheat, harrowed in with one stroke of the harrow in a place, the way the ground was last ploughed; the wheat when it came up appeared as if it had been put in with a drill machine, being handsomely in rows, which is found by experience, to be the best method to preserve the roots in the winter from freezing out in rolling land, the wheat did not look so well, when the winter came on, as usual, but there were roots enough, the plants stood the winter well, and at harvest I had the satisfaction to find that there was no injury done in the manured ground, to any of the kinds of wheat, by the fly; on the ground which was not manured; some little appearance of damage from the insect, was observable, but of no importance.

Supposing I had discovered the mode of being able to defeat in some measure, the ravages of the destroyer. I commenced a different course of practice: divided my fields into fifteen acre lots, as near as possible, they being before this from 50 to 60 acres each, also liming those lots with from 40 to 60 bushels of lime to each acre, limestone being plenty on my farm; commenced also a rotation of crops, Indian corn, the first year; the following spring, ploughed the stalk ground, in March if possible, and sowed spring barley with barn yard manure put over it, harrowed in; after the barley, I gave two ploughings and harrowed in rows as before stated; the next year ploughed down the wheat stubble, and at one ploughing sowed rye in the beginning of September. In the spring following, sowed about one gallon of clover seed to each acre, after which sowed on the rye, one bushel and a half of plaster of Paris to each acre; also commenced raising sheep and grazing cattle—the consequence has been, that I have not missed a crop of any kind of grain, since I adopted this course, and the Hessian fly, instead of being a curse, has had the contrary effect, my land is now in as productive a state as I could desire, and I can make on any field, which is not in grain or cultivation, from one and a half to two tons of good dry hay from each acre, and my land is still increasing in fertility.

It is proper to state, my farm is limestone land, a heavy yellow clay, alternating with sandy loam in some places. I have been more prolix than I could have desired, but you will I hope excuse my particular narrative of circumstances, as it may tend, perhaps to suggest a better mode of practice, and a careful examination of the various destructive insects which deprive us of many of our most desirable comforts.

A LANCASTER COUNTY FARMER.

THE FARMER.

BALTIMORE, FRIDAY, FEBRUARY 25, 1819.

This paper contains the eleventh, and we believe the last number of a series of essays, headed "Treatise on Agriculture." They do great credit to the taste of the writer, and prove him to be a man of science and a highly polished scholar—Report ascribes them to the pen of General Armstrong, whether correctly or not we are not advised; but most assuredly any man

should be proud to acknowledge himself the father of such offspring.

By accident, some observations on the Management of Fruit Trees, have been omitted, which in reference to the season or the year, ought to have appeared in this number; they may be expected in the next.

Mr. Quincy's Address to the Agricultural Society of Massachusetts, will be read with much interest, unless it be, that Farmers like many other people, do not relish advice, which exposes their defects, and exhorts them to a change of conduct and habits. So lively and faithful is the representation, that one might well imagine his picture of the farm house and barn yard, was sketched on his way to Congress, through the state of Maryland. We had supposed that our eastern "friends of order," had arranged things better at home—we would respectfully propose that this part of his address be read at the next meeting of our Maryland Agricultural Societies.

Verb: Sap: Sat: in plain English and without any contraction—a word to the wise is enough—and why should not a word to the honest be sufficient?—All who are in arrears, as some have by accident been allowed to be, are requested to remit the amount due for the first vol. of the Farmer, by the first mail, at the cost and risk of the Editor.

To Mr. Southwick, Editor of that valuable and interesting journal "The Plough Boy," we are indebted for the engraving of the Shepherd's dog.

Although the demand for Merino wool has much declined under a great change in the circumstances of the country—we must still consider the stock we have acquired as of immense importance. It will constitute a capital which may be rapidly multiplied and accumulated when a change in the internal policy or foreign relations of the United States may render it desirable. In the mean time it is well to record such observations and reflections, as may serve hereafter to direct the farmer in the improvement and preservation of his flocks, and to this end it would surely be politic to import and propagate the breed of Shepherd's dogs—the character and qualities of which are so well described in the article we have copied.

FOR THE AMERICAN FARMER.

Mr. Skinner—I perceived in a late number of the American Farmer, the following observation subjoined to a communication made by A Subscriber—"I should be gratified if some of your correspondents would inform me, the cost of oyster-shells per bushel—the difference in bulk before and after burning—the quantity of fuel necessary, and the most economical method of burning them, as well as the best mode of applying the lime to the land."

With regard to the first subject of inquiry, it is probable your correspondent can obtain more satisfactory information from persons residing near him. On James River, the price of shells is usually one dollar per hogshead; eighteen bushels being called a hogshead. In the District

of Columbia they sell for three cents per bushel. In reference to the other points on which he solicits information, I will cheerfully communicate the result of my practice and observation, if you should deem it worthy of his notice.

By those, who prepare large quantities of lime for sale, the shells are burned in permanent kilns, constructed for the purpose, and calculated to save fuel and abridge labour. Whether it would be competent to farmers, or discreet in them to adopt a similar plan, I am unable to say, because I am unacquainted with the manner of erecting and using the kilns, or the expenses attending them.

The mode in general use is, to build a pen of logs, seven or eight feet square, with successive floors of the same materials, on each of which, shells are deposited, until the pen attains sufficient height. The fire is then communicated to the pile, and if the quantity of lime thus obtained be insufficient, another pen is made, and the same process repeated.

An improvement on this method suggested itself to me. It was apparent that a great waste of fuel was the consequence of burning a small quantity of shells at a time, besides that many were imperfectly calcined; and I concluded a less quantity of fuel might be made to produce a much greater effect, by combining several of these pens, and burning them all at once. In this way each pen would receive the benefit of the heat emanating from those adjacent to it, and many additional shells might be burned in spaces between the pens.

In pursuance of this idea, I proceeded, about the latter end of March last, to construct my pens in the following manner, and made use of straight pine logs, mauled into lengths of eight feet, generally from eight to twelve inches wide, and five or six inches thick. These had been seasoning about two months. As a foundation for the first pen, three logs were laid parallel to each other, the two outer ones about six feet apart in the clear. Across these was laid a floor of logs, placed as close to each other as possible; the ends projecting about a foot on one side. Upon this floor, and immediately over the two external bottom logs, two others were placed; and, to complete a square, two additional logs of the same thickness, but shortened to six feet, were laid down at right angles with the first. Thus was formed a receptacle for the first layer of shells, which was filled accordingly, and the top made level. On the surface of these shells and the logs which confined them, another floor was laid at right angles with the first, in order that the work might bind well. Having progressed thus far, a similar pen was made on that side of the first where the floor projected, and in such a way that the projection of the one should come in contact with the projection of the other. This pen being advanced as far as the first, two others, precisely similar, were made along side of them, but not in immediate contact; so that the four pens formed a square, with two passages intersecting each other in the centre. The interval between the two first and the two last pens was likewise floored with billets of wood: and every interstice in the floors and walls was carefully stopped in like manner. Shells were then thrown on un-

til an even surface was obtained. We now resumed the work upon the first pen, where a new place of deposit for shells was made, in the same manner as the first; and this work was continued throughout, until a new stratum was formed. In this way the work progressed by successive stages, until the structure attained the height of nine or ten feet. To prevent the walls from falling outward during any part of the process, and especially after the conflagration should commence, care was taken to draw them in gradually after the second floor was formed; so that the area of the top of the pile was less than that of the foundation; and it is necessary to observe that, in every pen, the logs composing the successive floors were laid alternately at right angles with each other. The quantity of fuel used did not exceed sixteen cords of common old field pine, without heart. Of oak, no doubt, a less quantity would have sufficed. Where pine is resorted to, especially sap pine, (and it is as good as any other material for the purpose,) the logs must be large, and in all cases they must be straight.

The shells deposited in these pens amounted to 550 bushels. As calm weather was particularly desirable for the purpose of burning them, the fire was communicated late in the evening, and in 12 or 14 hours the work was completed. To guard against the effects of wind, planks and pine rails were at hand to make a shelter, with the aid of forks previously planted in the ground. From this precaution I derived great advantage. After calcination, the shells measured 407 bushels. In order to ascertain what proportion of slaked lime there would be, I took 20 bushels from the pile, and upon slacking it, found that it yielded 28 bushels of fine silted lime, and 3 bushels of coarse stuff, answering for agricultural purposes. Thus the 550 bushels of shells yielded 569 bushels of fine slaked lime, and 61 bushels of coarse stuff easily pulverised; at an expense of sixteen cords of wood such as above described.

I will now proceed to state my mode of applying the lime to the land. Rich soil had been carted to a convenient spot; and a compost was made of this and the recently burned lime, by alternate layers of each, commencing with a layer of earth, in the proportion of three parts of earth to one of lime; the whole forming a long bulk or ridge. The lime soon began to slake, and as it bursted out occasionally, more soil was thrown on the vents, to confine it as much as possible. After the lime was thoroughly slaked, and in order that it might be incorporated uniformly with the mass of earth, several hands with hoes commenced at the two extremes of the mound, and began to cut it down; leaving it in a heap behind them. In this manner they progressed until the whole was cut down and left in two heaps. The compost was then carted out and spread upon the land.

A FARMER.

P. S. I feel great solicitude to know what degree of horse power is required to work the machine for breaking and grinding corn with the cob, invented by Rogers and De-

mund; and cannot but express a hope that a more perfect representation of it will be given.

January 25th, 1820.

If you are clearing land, or can by other means obtain brush conveniently, throw it in a pile, and over it put a quantity of shells, then set fire to the brush, add more brush and more shells alternately, until all are in the mass.

The whole mass will soon take fire and the oil in the shells will hasten the combustion. A pile of two or three thousand bushels will burn about 24 hours, when they will be in a state to crumble when trod on; they may now be carted out on the land, and ploughed in at the rate of from three to five hundred bushels to the acre. In the course of two or three years, they will be perfectly mixed with the soil; and are believed to be much more beneficial than when reduced to lime, as a large proportion of the oily parts still remain.

It is also believed, that shells reduced to a powder by means of a mill, would be still more beneficial to the sand land than those which are burnt.

Editor American Farmer.

Ploughs For Sale.

The subscriber respectfully informs his friends and the public, that he has established a manufactory of Ploughs. He has on hand, and intends keeping for sale, an assortment from a large four horse, to a small one horse plough; in all five sizes, viz:

A plough well strengthened with iron, for four horses,	\$25
Ditto without extra iron, for 4 horses,	20
“ For two stout horses	16
“ For two small do.	13
“ For one horse,	10
“ For one do for seeding tobacco, &c.	9

The three smaller sizes will come one dollar each lower, without steel: the iron work will be all wrought except the mould board, which will be cast iron.

Having found great difficulty in obtaining good ploughs when on his farm, he believed that he might be usefully employed in manufacturing them, and from his experience in mechanism, and agricultural pursuits, he is confident that he will be able to give satisfaction. His ploughs are of simple construction, they will be readily kept in order, and found on trial to work easily for man and horse.

His agricultural friends are particularly invited to call and examine for themselves, at No. 82 Pratt Street, Baltimore.

ROBERT SINCLAIR.

March 3d, 1820.

Published every Friday, by
John S. Skinner.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
"Agricolus." . . . VIRG.

VOL. 1.

BALTIMORE, FRIDAY, MARCH 3, 1820.

NUM. 49.

AGRICULTURE.

AN ADDRESS,

DELIVERED BEFORE THE

New London County Agricultural Society,

at their late Anniversary Meeting, October 4th, 1819, by THOMAS S. PERKINS, Esq. Corresponding Secretary of the Society.

New London, Oct. 20, 1819.

THOMAS S. PERKINS, Esq.

Sir: In pursuance of a vote of the *New London County Agricultural Society*, the Committee of Publications present to you the thanks of the Society, for the Address delivered at their late annual meeting, and request a copy thereof for publication.

With respect, your obedient servants,

JOSEPH WILLIAMS,

NOYES BARBER,

JOSHUA B. CLAPP,

} Committee.

Address, &c.

The subjects which present themselves to a mind contemplating the processes in Agriculture are various and extensive, yet it seems the operative duty of one called upon to address an audience, like this, assembled to celebrate the anniversary of our Agricultural Society, to lead their thoughts to a few of the objects of our association, and to the advantages which have resulted from the institution of similar ones in other nations, and in different parts of our own country. It is not necessary for us to look back to the earliest ages of the world, and view the progress of this primitive art, nor need we now attempt to discover in the wandering habits of our race the reason why this art remained stationary, while great improvements were making in other arts. We should be wasting our time in useless speculations, were we to attempt to investigate the nature of earlier processes in Agriculture, or of the implements used by the original cultivators of the soil. Neither is it important for us to know the causes why the pastoral ages have ever been recurred to by Philosophers as exhibiting at state in which mankind enjoyed the most alloyed happiness, nor why the golden age has been represented by the poets as those years in which man was free from the corruption of our nature—such speculations are foreign to our object, are unnecessary and destitute of any advantages which we might hope to gain.

History informs us that when any nation had come exhausted by continued wars or other devastating causes, the attention of the wisest of the sovereigns has been uniformly directed to the improvement of an art upon which the prosperity and security of their respective empires de-

pend. In those early periods to which we refer, the patronage of the monarch was necessary to call forth those energies which are now excited by the spirit of emulation, and a desire for public good. It was owing to the fostering care of Sesostris, that the fertile plains and valleys of Egypt were made to wave with rich and luxuriant harvests, and the harmonious pen of Virgil was employed by Augustus to lure back to their fields and flocks, those degenerate Romans who forgetful of the example of the fathers of their republic, sought happiness in the pleasures of the luxurious city. It is no trifling tribute to our profession, that one of the wisest of monarchs should have employed the first poet of the age to write so complete a system of Agriculture for the use of the subjects of an empire which included the then civilized world. The fact is illustrative of the ideas of that sagacious Emperor, whose whole conduct expressed his respect for the simple and unaffected manners of rural life.

Although we may read with pleasure, the works of earlier writers upon Agriculture, and admire the excellent advice with which they are filled, and the minuteness of detail into which they descend, yet we are not in this age to follow implicitly the precepts of Cato or Virgil, of Varo or Columella. The last age has furnished many facts, the results of experiments and the difference in soil, climate and crops, compels the American farmers to form for themselves a code of Agriculture, adapted to their own situation. This object ought constantly to be in the minds of the members of this Society. In order that we may derive the advantages which we hope will flow from this institution, it seems necessary that there should be some opportunity of collecting the results of the experiments which may have been attempted, and of presenting them to the public in a manner from which we can all profit.

With regard to the difference which may exist, in the soil of our own and other countries much may be said, and we be still left to conjecture. Great diversity obtains in almost every region of the world, and particular sections of the same region present different soils; but there are many reasons why the natural soil of our own country should be superior to that of most other nations. Centuries had probably passed away before our lands were subjected to that exhausting system of cultivation to which others were exposed. During the long period while they were left to rest, their fertility was constantly increased by the falling of leaves and the decay of vegetable matter, and the earth was shaded by the thick foliage of the trees which protected it from the exhausting heat of the sun. Thus the food of vegetation was constantly accumulating, and the fertility of the land continued to increase. These circumstances must have fitted

our soil for any course of cultivation which could have been adopted; and after it was settled by our ancestors, the roughness of the surface preserved much of it from severe cropping. The first settlers of our country were practical and experienced farmers: They filled it with orchards and pursued a course of agriculture which tended much to increase their own comforts and to enhance the value of their lands—but the constant wars carried on with the natives, and the French on our frontier, left their children but little opportunity to follow in the path which had been marked out. Other circumstances have also occurred, all of which have tended very much to impoverish the soil. Had a system less destructive been adhered to, we should have found our lands in a state of greater fertility. But while we lament the improvidence of those who immediately preceded us, we must not conclude that we are without resource. When reading treatises upon the agriculture of European countries, we find that it requires hundreds of loads of manure to bring an acre of land to a proper state for a crop; and we are irresistibly led to draw a conclusion in favour of our own soil, where one tenth of the quantity there used, will here ensure a large return. The great crops raised in those countries, are obtained by a system of fallowing and repeated ploughings for one crop. The greatest attention is paid to reduce the soil to an almost impalpable powder. Sir John Sinclair, in his excellent "Code of Agriculture," speaks of *six* deep ploughings in summer fallow; and in some places on the continent of Europe, such pains are taken to pulverize the soil, that it is beaten with mallets and raked with more care than American farmers bestow upon a garden. With these facts in view, let us recur to the course we ourselves pursue. Let us individually recollect whether our own rye fields have received even *three* very shallow, imperfect ploughings, and ask ourselves if we can expect large returns. That soil cannot be considered poor which with two ploughings, just stirring the surface of the ground, and leaving it filled with innumerable baulks, will return to our hands even the seed which may have been sown. We are not compelled to form reservoirs for the use of our cattle, for almost every field in every farm is watered with living streams. We have here no extensive moors or arid plains, whose sour and enurlish soil never repays the labours of the husbandman, yet many thousands of acres in England, from the nature of the soil long thought incapable of cultivation, are now covered with the finest flocks and herds which the earth sustains. Where in this country shall we find barren sands too light to retain manure, and where the spit on which the rain of heaven sheds no genial influence—yet Europe presents thousands of acres, once barren as the beach which bounds our shores, now waving with rich harvests. We have

here no marshes, nor bogs, nor fens, which it would cost thousands to reclaim—yet, in Europe, a *Kingdom* has been rescued from the sea.

We have a climate, which, though it gives us the extremes of heat and cold, yields to us the advantages of more southern or more northern regions. The snows of winter and the heats of summer, each pay tribute to the industrious farmer: the one furnishes with roads and bridges to places difficult of access; gives a facility of communication with our markets; by a process unknown to us, tends to fertilize and protect the soil; and does not by its long continuance expose us to the disadvantages suffered in more northern latitudes. The other seems peculiarly necessary to the growth of our principal crop, seldom do these heats continue till nature is exhausted, and the human frame is spent; seldom do we here suffer from excessive heats, which, instead of cherishing, destroy the fruits of human industry; never do we experience the enervating influence of more southern climates—and languor is a feeling unknown to the hardy cultivators of our soil. The dryness of our atmosphere gives us great advantages. No long continued rains or fogs, render labour impossible for weeks—nor expose us in winter to sickness and untimely death, nor in summer prevent the gathering of the fruits of the earth. The severity of the cold of winter gives energy and tone to the system—braces the body—invigorates the mind and induces those feelings of independence which dignify and exalt our race.

The peculiar climate we enjoy, has brought on a course of crops adapted to its nature. The cultivation of Indian corn, is a process not understood in many countries, in some of which the climate presents an insurmountable obstacle. We know its importance and appreciate its value. Although it is a scourging crop to the land, and deprives it of much of its fertility, yet when we reflect upon the returns it yields, we shall not doubt but that we are amply repaid for our labour and expense. When we recollect the quantity of fodder produced by one acre of Indian corn, including both the stalks and the butts, that this is, independent of the grain, and is of the first quality for the use of cattle, we must be led to attach more importance to the cultivation of this valuable plant. If we should go further and consider the uses of the grain, its nutritious qualities, and the various ways in which it can be applied, whether we use it as food for our families, or our stock—whether we use it for our swine, or carry it to market—in whatever way we apply it, we find it more valuable than any other grain except wheat, and in some respects superior to that highly esteemed plant. To us it has become necessary, and nothing could supply its place. No instance can be mentioned which indicates more inattention on the part of our farmers, than the course pursued in the cultivation of this vegetable. Nearly 200 years have elapsed since this crop has been raised by the civilized inhabitants of this country, and yet the inexperienced farmer has no authority to which he can refer, as to the best method of planting. It may be said, that we must follow the example of our neighbours, and plant as our fathers did—but custom can never sanction to any reasoning mind, the practice of planting with little or no manure; and if we may refuse credit in this in-

stance, why may we not doubt the expediency of planting it in hills? The largest crop of Indian corn of which we have any account, is stated to have been one hundred and thirty bushels to the acre. This was planted in a particular manner in rows on land very highly manured. This way of planting, together with various other methods, has often been recommended, yet it is questionable whether many of this highly respected audience ever tried the experiment. The potato, though a native of our own, has become a most important article of food in other countries, and is more extensively cultivated now, than at any former period. Our soil and climate afford us opportunities of raising most of the productions of other nations, and we have reason to believe that many plants and vegetables not now known among us, may be made sources of great wealth. In confirmation of this opinion, let us look to the ruta baga, or Russian turnip, a root, until very lately, entirely unknown among us: in the hands and under the care of enterprising and experienced farmers, it bids fair to become a useful and important article of consumption. The introduction of the turnip husbandry, forms an epoch in the history of British agriculture, and why should the American farmer be inattentive to the advantages which may be derived from the cultivation of this vegetable? The inexperienced farmer is not competent to try experiments. Few theoretical farmers have that knowledge of the detail of agriculture, which will enable them to know when they step out of the ordinary track, or possess sufficient experience to judge of the results of their own experiments, and the public are left in ignorance, if the proper steps have been taken to give a fair trial to the plant or vegetable upon which the experiment has been attempted, and the fear of ridicule operates so powerfully, that many are deterred from any attempts. In addition to this, no accounts are presented to the public. All we are able to learn is, that the cultivation of such a plant, or grass, or vegetable, has been attempted, but did not succeed. If our farmers would feel that it is honourable to have attempted to benefit the community, and would communicate to the public the detail of these experiments, we might then judge if no step has been accidentally omitted, and whether the nature of the soil, exposure, mode of treatment, &c. correspond with those recommended by the writer whose advice they endeavour to follow. Let those who understand the mode of farming now practised, and who know the advantages which are said to result from a different course, step out of the beaten path, and fairly try, if no other plan can be devised more profitable than that now pursued—if no mode can be discovered which will increase our crops and diminish the expense; and then let them state the method they have adopted, and the results they have obtained; thus we should have facts from which an opinion could be drawn, and the young and inexperienced will not be left to conjecture what might be the success of their own attempts.

But this class of farmers is not the only one which we hope will be benefited by this institution. Wherever we turn our attention, to consider the effects of associations and societies, for the improvement of agriculture, we find that not one part only, but the whole community have

been gainers. We will not go abroad for proof—we will not refer to the reports of the French Professors, nor to those of the German Universities—nor to the labours of the British National Board of Agriculture, to show the advantages of such institutions, but we will confine ourselves to our own country. We discover these effects in the state of Massachusetts, particularly in the neighbourhood of Brighton, and in the county of Berkshire; within our own state, in the counties of Hartford and Windham. These societies, though recently established, have been so very advantageous, that the change is seen by the passing traveller. Two or three years have made an alteration in the appearance of the farms and stock, which the most sanguine well wishers to the country could not have anticipated. But the most important change is exhibited in the Barnyard. The article of manure had been almost entirely neglected; and it is supposed, that during the present season, three times the quantity is made which four years ago was collected in those counties. The pride and ambition of the farming interest has been excited, and this excitement has increased as it has been found that the care and attention which has been bestowed upon the soil has been amply repaid. But may we not hope that the effects of this, our own infant association, at even this early period, are to be discovered? Is it fancy, or is more attention paid to collecting manure? Is not more care observed in the selection of stock? And although we have suffered from an unexampled and disastrous drought, have we not reason to congratulate ourselves on the advantages we have already experienced, yet much remains to be done—we do not expect to change the appearance of our farms by any kind of enchantment, but hope by a steady course of industrious devotedness to the object proposed, to obtain the desired result. First of all, then, let us apply ourselves to the collection of manure. If there is magic in farming, it is here its effects are to be discovered. The barn yard is the only source which is now resorted to, and its operations are conducted on a very limited scale. Sufficient care is not taken to add to the quantity, and even our most enterprising agriculturists much neglect this indispensable assistant. The word "*manure*" includes all those substances which are known either to enrich the different soils, or to contribute by any other means to render them more favourable to vegetation." Time would fail us if we were to attempt to speak of this subject as it deserves. Of the kinds now used, it is unnecessary to do more than to suggest to the observing farmer; whether the quantity might not be increased—whether it would not be advantageous to notice more particularly the kinds of soil on which it is to be applied, and whether beneficial effects would not result from a more minute attention to the effects produced.

There is another class of manures, with which we are less acquainted, including lime in its various states, chalk, marle, and ashes. These have been so expensive and difficult to obtain, that they are but little used, though they are of great value. It is but a few years, since these were thought by the English farmers to be pernicious, operating to stimulate the land to an unnatural and destructive effort—that though one or two extraordinary crops might be obtained, yet that

soil becomes exhausted. But the investigations of the British board of agriculture, have shown that this opinion was erroneous. Great light has been thrown upon this part of our agriculture by the experiments of the enterprising agriculturists of that kingdom. They have proved that though this class of manures are highly stimulating, yet by a judicious rotation of crops subsequent to the application, the value of land has risen five or six fold, and that the soil still increases in value and fertility. Its operation seems to consist in preparing the crude and indurated parts of the soil to become food for plants, improving the texture of the soil, and giving it additional power to attract and retain moisture. It has been mentioned as one of this class, and is at the hand of every farmer in this country—it is painful to see how much it is neglected. In the neighbourhood of many houses, we see the heaps of ashes which have been left till overgrown with weeds they are entirely lost. We may form some idea of the value of this article, when we see the enterprising farmers of Long Island, purchasing it of the soap manufacturers in their own vicinity, carrying it to the island, and then carting it six or eight miles into the country, so that when spread upon the land, it costs them little less than forty cents per bushel.

Their practice declares that this is the cheapest manure they can obtain. But we have resources on almost every farm for obtaining this article at much less expense. The mud of swamp-holes and peat bogs, with any kinds of earth piled up with roots, stumps and old wood, are at our hands, and let us no longer neglect them.

Composts are of great value for top dressing our mowing lots. A little lime to commence the fermentation, mixed with weeds, bog grass, &c. &c. are all that is necessary, and this application, it is affirmed, will more than pay all the expense by the additional produce of the first year, while its effects will be seen for the four following seasons. Why then should we hesitate to adopt such a course of farming as will give us the opportunity of improving our pasture lands, enabling us to increase our stock, enlarge our farms, and thus add to our annual profits.

To direct the attention of our fellow citizens to the most important of arts—to that art upon which their existence depends—to lead them to acquire knowledge in detail of the processes of agriculture; to communicate to each other the improvements which may be introduced, and the coveries which may be made to strengthen the bonds of fellowship and good will; to cheer our leisure hours by the pleasures of social intercourse; to lighten our necessary toil by the arms of friendship; to infuse into the minds of the rising generation, that attachment to these rural pursuits which will enable them to be faithful to themselves, and valuable members of society; and to lead them to estimate correctly the high respectability of the honourable employment of the farmer—these are but a few of the advantages which we hope to gain.

It is unnecessary to attempt to impress upon the members of this society the indispensable uses of our profession without which nothing can be obtained. Industry, economy and perseverance, are peculiarly important to us. By

practising these, assisted by the blessings of Heaven, a wilderness may be made to blossom as the rose, and let us be ever mindful, that without this assistance, even the garden of Eden would become a desolate waste.

OFFICERS OF THE SOCIETY.

At the annual meeting of the New London County Agricultural Society, held at New London, on the 4th of October, A. D. 1819, the following officers were chosen for the ensuing year, viz :

ELIAS PERKINS, President.
 LODOWICK FOSDICK, Recording Sec'y.
 CALVIN GODDARD, 1st Vice-President.
 MOSES WARREN, 2d Vice-President.
 PAUL BABCOCK, 3d Vice-President.
 RALPH HURLBUT, 4th Vice-President.
 ASA FITCH, 5th Vice-President.
 THOMAS S. PERKINS, Cor. Secretary.
 LUTHER SPALDING, Treasurer.
 CHARLES P. HUNTINGTON, Auditor.
 JOSEPH WILLIAMS, } Committee of
 NOYES BARBER, } Publications.
 JOSHUA B. CLAPP, }
 SAMUEL CHANEY, New London, } Seeds-
 EPEPHRAS PORTER, Norwich, } men.

AWARDING COMMITTEES.

On the cultivation and improvement of Lands.

William Williams, of Stonington, Chairman;
 George Williams, of Waterford; Artemas Worthington, of Colchester; Joshua Huntington, of Norwich; Robert S. Avery, of Preston.

On the quantity and quality of Produce.

James Mitchel, of Groton, Chairman; Benajah Gardiner, of Waterford; William Lester, of Norwich; Henry Perkins, of Salem; Perez Hewit, of North Stonington.

On Domestic Animals.

Elisha Ayer, of Groton, Chairman; Benjamin Brown, of New London; Ralph Ishman, of Colchester; William Raymond, of Montville; Amasa Hyde, of Franklin.

On Household Manufactures.

Christopher Manwaring, of New London, Chairman; David Deming, of Colchester; Dwight Ripley, of Norwich; Elisha Avery, of Groton; Jesse Dean, of Stonington.

TOWN COMMITTEES

New London. Christopher Manwaring, Benjamin Browne, Isaac Thompson, Joseph Smith, Ebenezer Way.

Norwich. William Lester, Eber Baccus, Newcomb Kinney, Joshua Huntington, John Hyde.

Preston. Robert S. Avery, Nathaniel Kimball, Isaac Avery, James Cook, Adin Cook.

Stonington. Samuel F. Denison, William Williams, Enoch Burrows, William Randall, Amos Denison.

Groton. James Mitchell, Stephen Halcy, Elisha Ayer, Adam Larabee, Peter Avery.

Colchester. Benjamin Trumbull, John R. Watrous, Ralph Isham, Artemas Worthington, David Deming.

Lyme. Enoch Lord, Elisha North, Charles Smith, Joseph Chadwick, Matthew Griswold.

North Stonington. Peris Hewit, Joseph Ayer, Elias Hewit, Daniel Packer, Elias Smith.

Bozrah. Gardner Avery, Elijah Huntington, Ezra Lathrop.

Montville. Mulford Raymond, Daniel F. Raymond, Asael Otis, William Raymond, John Noyes.

Franklin. Darius Frink, Amasa Hyde, Comfort D. Fillmore, Jason W. Kingsley, John Armstrong.

Waterford. Benajah Gardiner, Charles Avery, William Moore 4th, William Champion, Ebenezer Holt.

Lisbon. Frederick Perkins, Freeman Tracy, Tyler Brown, Andrew Clark, Charles Perkins.

Griswold. Elisa I. Abel, Horatio Waldo, Alexander Stewart, jr., Welcome Browning, Christopher Avery.

Salem. Henry Perkins, Vine Stoddard, Matthew Turner, Ebenezer A. Packer, John S. Ramsom.

ON THE

Management of Fruit Trees.

[The following directions for the management of Fruit Trees, in every stage of their growth, will be found satisfactory.—They are from Marshal's Rural Economy.]

A seed bed and nursery ground should be kept perfectly clean, and be double-dug, from a foot to eighteen inches deep. The seedling plants ought to be sorted agreeably to the strength of their roots, that they may rise evenly together. In transplanting, the tap or bottom root should be taken off and at the same time, the longer side rootlets should be shortened. The young plants should then be set, in rows, three feet apart, and from fifteen to eighteen inches asunder in the rows; care being taken not to cramp the roots, but to bed them evenly and horizontally among the mould. In strictness of management they ought, two years previous to their being transferred to the orchard, to be retransplanted into unmanured double-dug ground, four feet every way apart, in order that the feeding fibres may be brought so near the stem, that they may be removed with it into the orchard, instead of being as they generally are left behind in the nursery. Hence in this second transplantation as in the first the branches of the root should not be left too long; but ought to be shortened, in such a manner, as to induce them to form a regular globular root; sufficiently small to be removed with their plant; yet sufficiently large to give it firmness and vigour in the plantation.

If the raising or improving of varieties be the object in view, the nursery ground should be naturally deep and well soiled, and highly manured; and the plants repeatedly moved at every second, third, or fourth year, that they may luxuriate not only in rich but in fresh pasturage; thereby doing perhaps all that art can do, in this stage of improvement, toward giving freedom to the sap vessels, and size and richness to the fruit.

The intervals may, while the plants are small, be cropped with such kitchen garden produce as will not crowd or over-shadow the plants; the rows being kept perfectly free from weeds.

In pruning the plants, the leading shoot should be particularly attended to. If it shoot double, the weaker of the contending branches should be taken off. If the leader be lost and not easily recoverable, the plant should be cut down to within a hand's breadth of the soil, and a fresh stem trained. Next to the leader the stem boughs require attention. The undermost boughs should be taken off by degrees; going over the plants every winter; always cautiously preserving sufficient heads to draw up the sap; thereby giving strength to the stems and vigour to the roots and branches: not trimming them up to naked stems as in the common practice; thereby drawing them up prematurely tall and feeble in the lower part of the stems. The thickness of the stem

ought to be in proportion to its height, a tall stock therefore requires to remain longer in the nursery than a low one.

Best method of Planting in the Orchard.

Describe a circle about five or six feet diameter for the hole. If the ground be in grass, remove the sward in shallow spits, placing the sods on one side of the hole. The best of the loose mould placed by itself on another side: and the dead earth, from the bottom of the hole in a third heap.

The depth of the holes should be regulated by the nature of the sub-soil. Where this is cold and retentive, the holes should not be made much deeper than the cultivated soil. To go lower, is to form a receptacle for water, which by standing among the roots, is very injurious to the plants. On the contrary, in a dry light soil, the holes should be made considerably deeper; as well to obtain a degree of coolness and moisture, as to be able to establish the plants firmly in the soil. In soils of a middle quality, the hole should be of such depth, that when the sods are thrown to the bottom of it, the plants will stand at the same depth in the orchard, as it did in the nursery. Each hole therefore should be of a depth adapted to the particular root planted in it. The holes ought, however for various reasons, to be made previous to the day of planting. If the season of planting be spring, and the ground and the weather be dry, the holes should be watered, the evening before the day of planting, by throwing two or three pailfuls of water into each; a new and eligible practice.

In planting, the sods should be thrown to the bottom of the hole, enopt with the spade, and covered with some of the finest of the mould. If the hole be so deep, that with this advantage, the bottom will not be raised high enough for the plant, some of the worst of the mould should be returned, before the sod be thrown down.

The bottom of the hole being raised to a proper height and adjusted, the lowest tire of roots are to be spread upon it; drawing them out horizontally and spreading them in different directions, drawing out with the hand the roots and fibres which severally belong to them; spreading them out as a feather; pressing them evenly into the soil, and covering them by hand, with some of the finest of the mould; the other tires of roots are then to be spread out and added in a similar manner. Great care is to be taken to work the mould well in, by hand, that no hollows be left. To prevent which, the mould is to be trdden hard with the foot. The remainder of the mould should be raised into a hillock, round the stem, for the triple use of affording coolness, moisture and stability to the plant. A little dish should be made on the top of the hillock, and from the rim of this, the slope should be gentle to the circumference of the hole, where the broken ground should sink one or two inches below the level of the orchard. All this detail may be deemed needless; by those, I mean, who have been accustomed to bury the roots of plants in the grave digger's manner; but I can recommend every part of it to those, who wish to ensure success, from my own practice.

Plants which have been transplanted in the manner here recommended, whose heads have been judiciously lopped off, and which have been planted in the manner here described, seldom require any other stay than their own roots. If however, the stems be tall, and the roots few and short, they should be supported in the usual manner with stakes, or raised in the following manner, which is at once simple, strong, and most agreeable to the eye. Take a large post and slit it with a saw, and place the post flat way, with the faces to the plant, one on each side of it, and two feet apart, and nail your rails up to the edges of the posts.

There are two ways of grafting. One is upon the stock after two, three, or four years growth in the nursery. The other is—to cut the entire head of the stock off and then to make a cleft in the top and insert the scions in it, covering up the whole

crown afterwards with a composition. But this method is attended with this disadvantage, that should one of the grafts not take, two are usually inserted. One on each side, the cleft remains open, after the composition falls off; and thus the cavity at the top on one side, not being filled up with new wood, becomes a receptacle for moisture and is very apt to decay.

The other method, and the best, is to let the stock remain until large enough to be grafted on the boughs, namely, until the trained boughs be about an inch in diameter.

By taking a view of the natural enemies of fruit trees, we shall be better able to judge of the art requisite to their preservation.

The enemies of fruit trees, are, a redundancy of wood; moss; spring frosts; blights; insects; an excess of fruit; old age.

Some of them are beyond human reach; but most of them are within the control of art.

A redundancy of wood is the cause of numerous evils. The roots, or rather the pasturage which supports them, is exhausted unprofitably; the bearing wood robbed of part of its sustenance, and the natural life of the tree unnecessarily shortened, while the superfluous wood, which is the cause of this mischief, places the tree in perpetual danger by giving the winds additional power over it; and is injurious to the bearing wood, by retaining the damps, and preventing a due circulation of air.

The underhanging boughs weigh down, especially when loaded with leaves, the fruit bearing branches they are preying upon, giving them a drooping habit or at least preventing their taking, as they ought, and otherwise would, an ascending direction. While those, which grow within the head, are equally injurious in crossing and chafing the profitable branches.

The outer surface only is able to mature fruit properly. Every inward and every underling branch ought therefore to be removed. It is no uncommon sight to see two or three tires of boughs pressing down hard, one upon another: with their twigs so intimately interwoven, that even when their leaves are off, a small bird, can scarcely creep in amongst them. Trees thus neglected, acquire, through a want of ventilation and exercise, a runty, stunted habit, and the fruit they bear, becomes of a crude inferior quality.

The great object of the fruit farmer is, to produce a crop every year: and nothing is more likely to obtain it than keeping the trees in perfect health, and endeavouring to prevent their bearing beyond their strength, in a general fruit year.

Moss is chiefly, perhaps, owing to the nature of the soil, and cannot be altogether prevented; but it may, in most cases, be checked, and its evil effects in a great measure avoided. I have seen several orchards in which the trees were almost entirely subdued by this vegetable vermin. Some of the trees, with, perhaps, only one bough left alive, and others entirely killed, and yet suffered to remain an incumbrance to the ground and a disgrace to the country. What avails the number of trees, if they are not productive? How absurd then to spare any reasonable expense to preserve them in a state of health, and productiveness; or to suffer those to encumber the soil, which are past recovery.

Spring frosts are an enemy against which, perhaps it is most difficult to guard orchard trees. Dry frosts are observed to have no other effect than keeping the blossoms back: consequently are frequently serviceable to fruit trees. But wet frosts, namely, frosts after rain or a foggy air, and before the trees have had time to dry, are very injurious to the buds. An instance is mentioned, in which a fly-haze shower in the evening was succeeded by a smart frost; that side of the tree against which the haze drove, was entirely cut off; while that side of the tree which escaped the moisture escaped the effect of the frost.

Much however may depend on the strength of the blossoms. The spring of the year, 1783, had its

frosts and all hopes of fruit trees were more than once given up; yet for quantity or quality taken conjointly, there has perhaps, seldom been so good a fruit year. But this year, the buds formed, and the blossoms broke forth with unusual vigour, and were enabled, by their own strength, to set common enemies at defiance. On the contrary, in the succeeding spring, the blossoms sickened in the bud, the consequence was, that scarcely an apple succeeded.

The assistance, therefore, required from art, in this case, is, by keeping the trees in a healthful vigorous state, to enable them to throw out a strength of bud and blossom; and by keeping them thin of wood, to give them an opportunity of drying quickly, before the frost sets in.

The term blight is of vague signification. Black blighting winds are talked of every where, but no definite idea is any where affixed to the expression. That corn and fruit become unproductive, without any visible cause, and that fruit trees are liable to be infected with insects, are certainly facts. But whether insects be the cause or the effect of blights does not appear to be yet settled.

With respect to blights, all the assistance, which art can render, is to keep the trees in a state of healthfulness, and prevent as much as possible an excess of fruit. As old age can not be prevented, we have only to consider how the productiveness of trees may be protracted. I have seen healthy bearing apple trees, which now wear their second top. The first tops being worn out were cut off, and the stumps saw-grafted. Sometimes we see trees so far gone in decay, that their productiveness no longer repays their encumbrance of the soil! How injudicious in such case is the conduct of the proprietor, who permits such trees to remain year after year imbibing and wasting the substance of his soil!

Public Schools.

The following Report was submitted to the Senate of Maryland, on the first inst by Mr. MAXCY, in consonance with the Governor's Message to the legislature.

The committee to whom was referred so much of the governor's message, as relates to education and public instruction, have had the same under consideration, and beg leave to report—

That, at an early period after the settlement of the state, the promotion of useful learning was deemed an object highly worthy of the attention of the legislature. At a session of assembly, at the city of St. Mary's, in the year sixteen hundred and ninety-two, an act was passed for its encouragement. In sixteen hundred and ninety-six, the free School of King William, was established at Annapolis; and in seventeen hundred and twenty-three, a school was erected in each of the twelve counties, into which the state was then divided, and the funds provided by previous acts for the support of county schools, were distributed equally amongst them.—By various other acts, schools have been established in each of the seven counties subsequently formed, and most of them have enjoyed at different times, a portion of legislative favour and encouragement.

Many of the schools are now in a flourishing condition. In some instances it has been found expedient to unite the schools of two or more adjacent counties: their revenue derived from the public bounty and private patronage being insufficient for their separate support. But the funds of some, your committee regret to say, have been diverted from their original object, and applied to purposes entirely foreign to the education of youth, and the advancement of useful knowledge.

In most of these schools besides reading, writing and common arithmetic, are taught English grammar, geography, the higher branches of arithmetic, and the latin and Greek languages. With moderate additional assistance from the state, these schools might be made highly respectable academies, or seminaries of learning of the second grade, and with the addition of one or two others, conveniently

located and properly endowed, would from a sufficient number of institutions of this class for the accommodation of the state.

Your committee begs leave further to report, that in seventeen hundred and eighty two, a college or place of universal learning was established on the eastern shore, under the name of the Washington College; and in the year seventeen hundred and eighty four, another under the name of St. John's College, was established on the western shore—both were liberally endowed by the general assembly, and united under the name of the University of Maryland. While they continued to enjoy the patronage of the state, they were flourishing and highly respectable. They have been particularly fortunate in sending forth into the world, many of our most virtuous, able and celebrated men, who have been in their various stations at once the ornaments and support of the state. The funds however were many years since withdrawn from their institutions which afterwards languished for a while for want of support and at length settled down from seminaries of the first class to respectable academies or schools of the second grade. Our youths of talent, who have the means of defraying the expense, are now obliged to resort to other states for the completion of their education; while, such as cannot afford it, whatever may be their natural endowments, are compelled to be satisfied with limited advantages afforded by our grammar schools. While many therefore of our most promising youths, for want of means, are obliged to forego the benefit of a complete course of collegiate study, others more favoured by fortune, carry more wealth out of Maryland, for the purposes of education in other states, when would be necessary for the most liberal endowment of a university upon the largest scale, which would be accessible to trouble their numbers. It is therefore manifest, that while this parsimony in relation to our colleges is totally distinct from frugality, it has diminished throughout our country, in a lamentable degree, the number of those who would otherwise have been qualified, by their knowledge, their talents and their virtue, to be the intelligent and trust-worthy guardians of the people's rights.

While for these reasons therefore, your committee look back with deep regret upon the policy, that has been pursued in relation to our colleges, they lament it still more on other accounts. It has rendered a system of general education of the people a great measure impracticable. It has injured, it is true, that class in the community, whose means would have enabled them to give their children the advantages of a learned education, but it has injured still more, though not so directly, and therefore not so manifestly, that portion of our community, who must have the means of instruction brought home to them, or be compelled to bring up their children in ignorance. A general system of elementary schools that would have brought knowledge to every poor man's door, has been from the first settlement of the state, considered an object of the first moment. And, indeed, in a government formed upon the broad basis of universal suffrage, what object can appear of greater magnitude to the sound mind of a reflecting and experienced statesman? If the elements of society be dark and confused without any prevailing principle to hold them together or direct their motion, what but disorder can ensue? Knowledge must enlighten and reduce the chaos to order, before liberty can be stable, or virtue secure.

The only means, by which this knowledge can be effectually diffused throughout the mass of society, are common schools, established in every part of the country. You may create those schools however, by law, and establish a fund for their support, but your work is useless and of no avail, unless you first provide competent and suitable teachers.—These are not to be had in our state and are only to be supplied by academies and colleges. The policy which destroys the superior institutions of learning, therefore, is fatal to the primary schools. The poorer classes of the community are even more in-

terested in the establishment and endowment of colleges and grammar schools within our state, than the rich; because the latter can procure teachers for their children at home, or can send them abroad for their education; while on the other hand, the children of the poor must rely for their education upon the primary schools located near them, and such schools cannot be had, until a competent supply of teachers can be furnished by seminaries of a higher order.

Your committee are therefore of opinion, that the permanent welfare and true interest of the state, call loudly for the establishment of one seminary of learning of the highest class, where the highest branches of literature and science may be taught, and where a number of poor young men, selected for peculiar genius from the academies, may be educated at the public expense, and who may be required, in consideration of the benefits derived by them from the public, to become teachers in the academies or seminaries of the second grade.

Your committee also most earnestly recommend a continuance of the fostering care of the government to such academies as at present derive assistance from the public, and the establishment of such additional institutions of this class, as may be found necessary for the accommodation of all parts of the state. In each of these academies provisions ought to be made for the education of a certain number of boys, who may be selected from the primary or common schools for their peculiar merit, out of those who have not the means of defraying the expense of a more complete education, and who in return may be required to become teachers, for a certain time, in the primary or common schools.

Your committee beg leave further to report, that they deem it a matter of the first importance, that common schools should be established in every neighborhood throughout the state, in which the children of such persons, as cannot pay for it, may receive instruction at the public expense, for a term of three years. The best mode of contributing to public aid to schools of this class, in the opinion of your committee, would be to provide by law, that whenever a neighborhood shall have erected a school house, and collect a certain number of pay scholars, a part of the salary of a teacher shall be paid from the treasury of the state, on condition of the master engaging to instruct gratis the children of such poor persons, as shall be ascertained to be unable to pay therefor.—This plan, which makes individual exertions a pre-requisite to public patronage, offers the best evidence of zeal, and pledges for fidelity, in administering the funds, which the schools may derive from the state.

Your committee are fully aware, that while the present pecuniary embarrassments of the country continue, it would not be proper to impose any burden upon the people of the state for the immediate attainment of these important objects; but they have thought it their duty to call your attention, and that of the public, to this outline of a system, which provides plain but useful educations for all the poor and for the advancement of such of them as are found to be possessed of extraordinary talents, and at the same time affords an opportunity to our youth, in all situations in life, to be educated in their native state. A system which if matured by further reflection and carried faithfully into execution, would, they have no doubt, be productive of results most important to the prosperity, the character, the dignity and happiness of the state and essential to the permanency and stability of republican institutions. But while they are fully sensible, that this is not the time to expatiate on further appropriations to literary purposes out of the funds of the state, they beg leave to call your particular attention to a subject of the first moment, not only to Maryland but to all the original states of the Union.

The public lands, though located in the west and south, are the common property of all the United States. Each state has an equal right to a participation, in a just proportion, of that great fund of national wealth. By laws passed by congress at different

periods, one thirty sixth part of those lands are set apart for the endowment and support of common schools in the states and territories that have been and shall hereafter be formed out of them; and many or whole townships, containing 25,000 acres each, are appropriated for the support of seminaries of learning of a higher class. Your committee can discern no reason, why the people who have already settled in, or who may hereafter remove to those states and territories which have been formed out of these public lands, should enjoy any peculiar and extraordinary advantages from this common property not possessed by those who remain in the original states. They are far from censuring that enlightened policy which a governed congress in making the liberal appropriations just above-mentioned for the encouragement of learning in the new states and territories. They, on the contrary most heartily applaud it. But they at the same time, are of opinion, that the people of the original states of this union, by whose common sword and purse those lands have been acquired, are entitled, upon principles of the strictest justice, to like appropriations for the support and endowments of literary institutions within their own limits.

Your committee therefore recommend the adoption of the following resolutions:

Resolved by the general assembly of Maryland,—That, each of the United States, having an equal right to a participation in that great fund of national wealth, the public lands, the original states of the union are entitled to appropriations of land for the support and encouragement of learning and literary institutions within their limits, corresponding, in a just proportion with those which have been made, for the same purposes within the limits of the new states and territories.

Resolved, That our senators and representatives in congress, be requested to use their exertions to procure the passage of an act, to carry into effect the just principle set forth in the foregoing resolution.

Resolved, That the governor of this state be requested to transmit copies of the foregoing resolutions to each of our senators and representatives in congress, and also to the governors of the several states of the union, with a request that they lay the same before the legislatures thereof, and solicit their co-operation in obtaining the object of these resolutions.

FROM A BOSTON CORRESPONDENT.

The writer will be obliged if the Editors of the National Intelligencer will insert the following. He has had some concern in manufactures, but is, from principle, opposed to any exclusive privileges.

I have just perused, with great pleasure and interest, the excellent memorial presented to Congress by the Delegates of the several Agricultural Societies in Virginia, and which, for plain many feelings, sound reasoning, and a correct knowledge of the true interest of the people of the U. States, is, in the opinion of the writer, a very superior, if not unequalled performance.

That the great body of consumers in this country should be taxed for the benefit of comparatively a few individuals, is so manifestly unjust, that it cannot but excite the indignation of every disinterested person. As the manufacturers well observe, the calamities we labour under, arising from circumstances far beyond their control, cannot be corrected by legislative wisdom; they must be left to our own selves, and will certainly do so, if Government does not, by increasing the existing duties, reduce the mass of imported goods to the great articles of import may be within the reach of the consumers. Since the year 1816, it is presumed the consumption of foreign goods has been continually de-

creasing, and is so now, evidently. This state of affairs has caused a loss to the importers, (who, as is well known, when imported articles pay a profit, obtain an advance on the duties or long price; so also, when imported articles are sold at a loss, the importer loses on the duties or long price.) These importers have paid duties to government, for which they have not got an equivalent of the consumer; and, hence, Government has probably derived a large revenue from mercantile capital. In ordinary times, this cannot happen, because the importer adds the duty to his price; but, in such times as we have had for three years past, it is plain to the writer, that such portion of loss as has accrued to the importer of foreign goods, has been paid to the Government from his own capital; that is, if the importation loses 25 per cent. the importer obtains of the consumer only 75 per cent. of the duties, and loses the other 25 per cent. himself. The experience of twenty-five years enables me to affirm, with some confidence, that the axiom, that the consumer pays the foreign duty, is true only of a regular trade, when the importation is about equal to the consumption, especially if the duties are very high. If there is a great profit on imported goods, the consumer pays the duty and a profit on the duty; if a great loss, the importer loses the per centage on the duty. The duties are too high in the United States; the effect will be to check consumption, or encourage smuggling hereafter. At present there is no inducement for the latter, but the former will take place more and more. The great mass of people always live within their means, and though individuals are extravagant, the people never are. A moderate duty of ten or 15 per cent. on imported articles would probably, in a few years, produce as great if not a greater revenue, than the present high duties. I remembered many years ago seeing a statement that the Government of Great Britain derived more revenue from the duty on Port Wine, after having made an important reduction in the duty, than they did under the high duty before existing. It is a great error in our Government to tax the wines and brandies of those countries whom we supply with grain, flour, rice, fish, tobacco, lumber, &c. so high. For instance the island of Madeira, can only pay in wine, for our flour, rice, corn, &c. This (though an article of luxury in Europe,) ought to be admitted at a very low rate of duty, in order to encourage our own agriculture. The high duty on Lisbon, Sherry, and Port wines have banished them from our tables; whereas, these wines should be admitted at a low duty, as being taken in exchange for the produce of our soil and fisheries. The same may be said of colonial produce which is the only medium of payment the Colonies have for our grain, rice, tobacco, lumber, and indeed, almost every article of export. On the other hand, the produce of the East Indies, being paid for in specie, and not in our own produce, ought to pay much higher duties.

If it be said that Government want revenue, and cannot reduce the duties, it may be answered, that it is much easier for the people to pay light taxes, in order to discharge the interest of the public debt, rather than reduce the value of property generally, by extraordinary exertions in Government to raise money. Besides the du-

ties are light, consumption will increase. High duties make the produce of our soil high, if the dutiable articles are consumed, if they are not consumed, and produce is low, then the people are impoverished, and cannot aid Government.

To return to the subject of manufactures; one fact is worth a thousand theories. Will any one deny that the cotton manufactures of Rhode Island, (where, I believe, they first commenced,) were ever in a more flourishing situation, or more profitable to the owners, than from about the year 1798 to 1806; the very period when the commerce of the United States was most flourishing. Possibly the accidental benefit of the war might for a short time have led to greater profits; but this was only temporary. At the above period, the duty on foreign imported articles was very moderate, and yet they succeeded—so they will now—without any governmental encouragement, as soon as our affairs return to their former level. The consumers will buy where they are able, not because they are home made, but because they are cheaper and better than imported goods. One more remark on this subject, and I close: that his, if the various manufacturers could succeed in excluding all foreign manufactures from this country, it is plain, all those concerned or connected in transporting, importing, vending, and distributing them, would have no means to buy domestic manufactures.

It may be added, as a well known fact, that the manufacture of shoes in Massachusetts, which began about 1788 or 1789, grew up into a most important branch of domestic manufacture, long before it received any encouragement by high duties. So also the manufactures of hats, nails, cast iron, and window glass, have established themselves, and that successfully, without extraordinary aid, because the natural circumstances of the country have favoured their birth and progress.

The legislators of all countries ought to recollect, that trade consists in the exchange of articles we do not fancy, for those we do. It is not founded on the necessity of man, but his desires. No one country is necessary to another. All are provided by the bountiful author of nature, with the necessities of life. It is impossible for trade to flourish, or even exist long, if we determine to sell only, and buy nothing. But, with a liberal system, which is peculiarly adapted to our country, of buying of our customers, as well as selling to them, the Agriculture of the United States, (the only true basis of national prosperity and happiness,) cannot fail to flourish and encrease, and with it, its handmaids, trade, manufactures, and the mechanic arts.

A BOSTON MERCHANT.

FROM THE PLOUGH BOY.

The following article, from the pen of *Timothy Pickering*, is gratefully received, and promptly inserted. Mr. Pickering, after sustaining the highest office in the gift of the federal government, has retired to cultivate the earth; not to enjoy ease with dignity, or *otium cum dignitate*, as the ancients used to say; but to labour with his hands on that soil, which, as one of the veterans of the revolution, he fought to make free. Though there be not ease, there is indeed, true dignity in this condition of a man who has

made so conspicuous a figure in the annals of his country. But our aim in this brief introduction is, to suggest to other gentlemen of intelligence and science, who cultivate the ground as Mr. Pickering does, that we should be equally obliged to them, if now and then, they would afford us a communication on any subject connected with husbandry and rural affairs. It may not be amiss to add, that we think there is a great propriety, on such occasions, in affixing the real signature of the writer, as Mr. P. has done, especially when facts are stated, for which it is interesting to the reader to know who is responsible.

MR. SOUTHWICK,

The learned author of the Treatise on Agriculture, in Section XI. published in your paper No. 36, discoursing on grasses, mentions *Timothy*; and says that "in Europe it is called *Herd-grass*, cat's-tail, or *phleum pratense*, its botanical name; but as the plant is of Yankee origin, we have chosen to retain the Yankee denomination." Dr. Elliot of Connecticut, who in the last century, wrote several essays on field husbandry, in his third essay, printed in 1751, says, "There are two sorts of grass, which are natives of the country, which I should recommend; these are *Herd-Grass*, (known in Pennsylvania by the name of *Timothy Grass*;) the other is *Fowl Meadow*, sometimes called *Duck Grass*, and sometimes *Swamp-wire-grass*. It is said that *Herd-Grass* was first found in a swamp in Piscataqua, (Portsmouth, New-Hampshire) by one *Herd*, who propagated the same." It is a fact, that it is now known among the farmers, generally in Massachusetts, and I believe throughout New-England, only by the name of *Herd's grass*. From New London, I have supposed the seed was carried to Pennsylvania, and there or in the three lower counties, now the state of Delaware, being cultivated by a person whose surname was *Timothy*, the grass received his name; and under that name was sent from Philadelphia to England. In such English books on agriculture, as have fallen in my way, it is uniformly called *Timothy* or *Cats-tail*. The last name is very proper, the shape of the head resembling a cat's tail, being biggest at its base, and tapering regularly to its top. With the like propriety, the meadow-fox tail grass has obtained its name; its head smaller at its base, swells thence towards its middle, and tapers to its top—like a fox's tail.

The *Fowl-Meadow-grass* mentioned by Dr. Elliot, appears to be a species of *Fiorin*, (*agrostis stolonifera*;) for, says the Doctor in his fourth essay, "In a former essay I mentioned the strange and peculiar properties of *Fowl-Meadow grass*, that it will hold out to be in season for cutting, from the beginning of July till some time in October. This I wondered at; but viewing some of it attentively, I think I have found the reason of it. When it is grown about three feet high, it then falls down, but does not rot like other grass when lodged. In a little time after it is thus fallen down, at every joint it puts forth a new branch: Now to maintain the young brood of suckers, there must be a plentiful course of sap conveyed through the main stem, or straw; by which means the grass is kept green, and fit for mowing, all this long period." The Doctor adds, "whether this young growth from the joints be owing to the horizontal position of the

draw, or whether it is a confirmation of that doctrine, that the joints of plants are seed vessels, I leave to naturalists to determine."—The celebrated Fiorin, first cultivated and recommended by Dr. Richardson in Ireland, and now, there and in Great Britain, admitted to deserve the exalted character he ascribed to it; he says is in its best condition for mowing, for hay, in the month of October. Perhaps its great value, above all other grasses, for low and rich ground, might have been ascertained in the United States, if we had obtained the kind cultivated by Dr. Richardson—the broad leaved fiorin—*Agrostis stolonifera latifolia*.—He says that botanists speak of forty sorts, his attention was confined to one of them.

T. PICKERING.

Wenham, Mass. Feb. 11, 1820.

FOR THE AMERICAN FARMER.

Shrubbery, Balt. County, Feb. 27, 1820.

MR. SKINNER,—I do not wonder at Mr. Pickering, vindicating the character of an article, that forms so large a portion of the product of Massachusetts, as the potato; and I will do him the justice to say, that he has given us some useful hints.—One in particular merits our immediate attention.

I mean where he informs us that his best early potatoes were produced from seed (Tubers) carried from this state. No intelligent agriculturist can doubt for a moment, the superiority of a cool northern climate in producing good Irish potatoes; nor of a southern warm climate in affording the best sweet potatoes. And though distinct in genera, it is somewhat remarkable in the providence of things, that exactly where the former become indifferent, the latter begin to be good.

I have never touched a New England potato or seed, though I have been grievously disappointed in using the genuine Hybernian—these will require many years to naturalize them.—Nevertheless, I have been well informed, that the imported Franke Braw, (in English, white and mealy) have been cultivated at Berkly, in Virginia, with advantage, and are the finest potato in that state. I wish you could obtain a few from some of your correspondents in that quarter.

It is certainly a principle both in vegetables and animals, to deteriorate, when moved from better to worse, and vice versa, and I have often remarked the great difference in young trees taken from forcing nurseries, and those taken from common soil.—The former though placed in a very good ground, would make a stand for a year or two, and often mildew, whilst the latter could instantly begin to thrive and grow with a polish peculiar to health and vigour.

But with all the credit due to Mr. Pickering's information, I conceive he has been inattentive to Mr. Davy's scale in one essential point, to the great disparagement of our favourite Ruta Baga. Thus in that scale, though the medium aggregate of solubles in potatoes, is 200, whilst that of Ruta Baga is only 64, it must not be forgotten, that those solubles are different things, and differ widely in relation to nourishment; to say the least, sugar is thrice as nourishing as either starch or gluten, or as three to one—the excess of sugar in Ruta Baga, is the large sum of 334, which multiplied by 2, for excess of nourishment

gives 67 to be added to the aggregate of 64, amounting to 131, so that the figures may fairly stand, in a scale of nourishing matter, at 230 potatoes 131. Ruta Baga, whilst in a scale of solubles, it stands as Mr. Pickering has stated it.

This new statement will be greatly in favour of the Ruta Baga, and correspond much better with experience. It is true that nothing but a series of experiments with sugar can determine its real comparative difference with starch and gluten; but I leave it to the candid and intelligent to say, if I have not fixed on a scale of great moderation, very few would fall out with me in making it 4 to 1. Those who fatten birds in Europe for market, could tell us of the great nourishing powers of sugar, which they have to use, though so dear.—The unhappy Africans in the corn fields, and near the sugar boilers in the W. Indies, profit by this multum in parvo. Whilst the mendicant of Calabria, hard pushed, retires from the city, to scrape the manna, exuding from the bark of the ash of that country, to nourish his impoverished body.

Many species of the solanum or potato family, are certainly poisonous in some parts, if not in all; whilst others are harmless, or have their deleterious matter secreted in certain parts only.

The night shade is poisonous in every part, and the bitter sweet (*solanum dulcamara*) is a very active medicine on the nerves—the *solanum carolinense*, a native, is not well known, but the long sharp prickles on both sides of the leaves, seem to say to the gregarious tribe, I am not for your use—whilst the fruit of the egg plant and the tomato, both solanums, are as freely used as the root of the Irish potato.—If we may judge from the effluvia of the leaves, the tomato has noxious juices in some of its parts, and I should be very hungry before I would taste the leaves, though the young tops or flowers of common Irish potatoes, are said to be fine salad. I think the skin of the common potato is its worst part, and those who neglect paring them before cooking, especially towards spring, are yet unacquainted with their excellence. I wish some humane physician would undertake a series of experiments to ascertain the parts of the different species of solanum that contain the poisonous principle.

The great difference in opinion about turnips and turnip-tops—cabbages—Ruta Baga and Ruta Baga tops, giving a disagreeable flavour to milk, I have perfectly reconciled by actual experience—any of them may be fed once in 24 hours, and not oftener; pompons, bran &c. must form the intermediate feed—and I think, though I do not know, that even garlick might be used twice a week. It appears, that those ill flavours pass off, if allowed time*—see a paper partly on this subject in your Farmer of the 11th inst. signed a "A Subscriber."

I will here add to the stock of information you already possess, what little I know about the cultivation of the Ruta Baga.—In this country, off the waters, 10th a 15th of May is the time to sow for early, and the 10th a 15th July, for the late crop: the latter are best for the table: very

* It would seem that it was only by great accumulation, from often feeding, that these highly essential oils enter the udder, which is as it were, the ultimate point in the economy from the stomach in cattle.

good and nicely prepared soil, is necessary to ensure a crop when sowed, where they are to remain—very inferior soil will do to transplant them to—especially if the plants are large, which ensures their success—the root should be as large as the largest quill and upwards, when transplanted. They should not be sowed closer if so close as common turnips, and not near a wood. When left to grow the drills should be about 3 feet 6 inches apart, and from 10 to 12 inches in the line of the drill. The same soil and manuring will bring 20 per cent. more common turnip than Ruta Baga, judiciously last year, which was a great turnip year in our land. The seed should be put one inch deep in the ground. I need not add, that they must be kept clean, and ploughed, if in drills—I cannot help thinking, that Mr. Pickering is a little prejudiced against them, or he never would find the difference in chopping these and carrots with a sharp spade.

RECONCILIATOR.

[The following plain hints contain good advice. The writer is, no doubt, what he signs himself, "A Practical Farmer," from whom we should be glad to hear again and again.]

Friend Skinner,

In perusing thy paper, I observe many useful hints on the rotation of crops, methods of manuring, fencing, &c. many of which are very instructive and profitable. But to do all these things, at the least possible expense, is the question, otherwise we might as Dr. Franklin says, "pay too dear for our whistle." In order to avoid this, a regular system of crops, ought to be established; the quantity of stock and the number of labouring hands fixed, and avoid as much as possible all deviation from the same; for regular system is more important in agriculture than in any other business that I am acquainted with, and the difference between riches and poverty depend upon it.

After things are thus far fixed, the next object is to continue business well, and keep every thing in order and ready, until they are wanted; never put off getting implements in readiness to seed, feed, &c. at leisure times; for when these things are wanted, you are hurried, and it is very injurious to regular business, to be interrupted on that account. To prevent confusion let every hand bring home the tool he is working with every evening, and put them in a house for the purpose, which will save much trouble in case of the change of weather, or other causes making it necessary to take the same tools to some other part of the farm the next day; and every hand should have his orders in the evening what is to be done the next day, which is of great advantage, and care should be taken through the day that all things work to suit each other; for instance, the ploughman should not wait for the hands, nor they for the ploughman, and never change the hands from the work they are about to any thing else, if it can be avoided; by these means the life and energy

of the labourers are preserved; which with good usage, never fails producing happiness and profit, for I am of the same opinion with Col. Taylor, the famous Virginian agriculturist, that stock and hands must be well kept, if we want profit from them; and as the keeping is, so is the profit.

A Practical Farmer.

Occasional Extracts.

ON THE USE OF SUMACH.

Coriaria—from a female Correspondent.

As respects the use of Sumach, we suffer no part of it to escape, from the root to the fruit. A strong decoction made of the root will assuage a swelling on a horses' back, by washing the part affected with the decoction as hot as it can be borne. The bark, stems, and leaves make a good dye for sheep skins, boiled strong, set with copperas, and the skins put in when warm, not hot, and well washed every two or three days. I have known hard, horny skins to become quite soft from the above process. The berries of the sumach make the best black dye for woollen, that we country folks can get. The berries being threshed off, which is easily done by laying the bunch on a clean floor and using a small stick; there should be a strong dye made with them; the wool or yarn placed in an iron pot, a layer of berries and one of wool or yarn alternately with a little copperas sprinkled on each layer of the yarn. The dye then poured on, and the pot of yarn, berries and dye made to simmer, (not boil, as that will have a tendency to rot, and give the yarn a soot colour—) kept warm a few days, then dried in the dye, (I mean not washed, before it is dried,) it makes a lasting black.

To the Editor of the American Farmer.

Lexington 10th Feb. 1820.

Dear Sir,

I send you a pod of the "coffee nut tree," sometimes called pea locust.

The coffee nut is a common tree growing in the forests of this country, always in the richest soil—a tall trunk but few branches—thickness at the stump 24 inches, very rough bark.

The fruit was used by the first settlers of the country as a substitute for coffee, to which it is very similar, whence the name.

Your obedient servant,

LEWIS SANDERS.

Note by the Editor.

[The pod in its exterior appearance resembles very nearly that of our honey locust—it contained six nuts, beautiful in form and colour, which have been distributed in a way that will ensure their being planted and attended to with great care.]

On the Management of Sheep.

Mr. Skinner.—With your permission, I beg leave to add the sixth minutes notice to the discriminating remarks of a "Marylander" in his "five minutes reflection on sheep." It may possibly add another link to the able chain he has woven for the management of that useful animal. He states in No. 43, page 342, "should a spell of cold rainy weather overtake them within a few days after they are shorn, the only remedy is to house them till it is over." It is admitted the house may be resorted to with propriety, should the inclemency of the season require it; but that there is another remedy my practice and success at least proves, and those of my neighbours who have been governed by my advice have been equally fortunate in preserving their stock. A the time of shearing a mixture is prepared of equal parts of common fish oil and tar, incorporated together over a slow fire, and applied from head to tail of the animal, milk warm, at the instant the fleece is removed. The flock are then returned to their pasturage, and require no further care than that necessary attention which the farmer should at all seasons bestow on every animal of rural economy. This practice has been adopted and perserved in for five successive years, and with the annual purging of the flock, and treatment nearly assimilated to that recommended has been entirely successful. The rationale is left to able hands, such is the fact. The expressed juice of garlic is found from long experience an invaluable medicine in most of the diseases attending sheep, save old age and poverty.

A CEDED VIRGINIAN.

THE FARMER.

BALTIMORE, FRIDAY, MARCH 3, 1820.

*** This being the season for planting young orchards, some instruction on that head will doubtless prove acceptable to our readers. We have therefore selected the directions given under the head "management of fruit trees." These directions we perceive have been approved by the Agricultural Society of Massachusetts, and published in their memoirs; and assuredly they could not be sanctioned by higher authority.

*** A correspondent desires to have information as to the culture of the cauliflower; we confess our ignorance on the subject; we have been under the impression, that it was difficult to raise them in perfection, and would thank any of our correspondents to tell us how it may be most successfully done.

It is proposed to build a Bridge across South River, in Anne-Arundel county, in the line of communication between Annapolis and Washington; we hope the stock will be promptly taken.—We shall take further notice of this object of internal improvement, though the advantages are obvious at a glance.

*** Internal improvement being one of the chief objects of this journal, we have with pleasure recorded M. Max y's report on Public Schools. If all Legislatures possessed his public spirit, enlightened and directed by equal intelligence, Maryland would no longer shut her eyes on the example of New York, Pennsylvania, Virginia, and other states.

FROM THE OLIVE BRANCH.

Winter evening's amusement for Jane and me.

In summer days I till the ground,
And tug and toil and get my bread—
No interval can there be found,
Between my labour and my bed,
My wife declines to knit by night,
And I to read by candle light.

But when the south receives the sun
Beyond the equinoctial line—
When all my summer work is done,
Substantial pleasures then are mine.
Then Jane begins to knit at night,
And I to read by candle light.

I'm then content and never sigh,
Nor fly from home some bliss to find;
And Jane is pleased as well as I,
It so completely feasts her mind,
To sit her down to knit by night,
And hear me read by candle light.

For when I read she always hears.
And what she hears she tries to scan;
When ought to her obscure appears,
Then I explain it if I can.
O how she loves to knit by night,
And hear me read by candle light.

But when she drops a stitch and gapes,
Soon gapes again and nods her head.
I close my book, and say, perhaps
'Tis time my dear to go to bed—
So knit again to-morrow night,
And hear me read by candle light.

PICKAWAY BARD.

BALTIMORE,
PRINTED EVERY FRIDAY,
AT FOUR DOLLARS PER ANNUM.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, MARCH 10, 1820.

NUM. 50.

AGRICULTURE.

On the Cultivation of Tobacco.

With some observations on its natural history, its medicinal qualities, its introduction into Europe, &c.

The high price which tobacco has uniformly maintained since the late war, when compared with that of other staple products, has induced many to think of substituting that plant for other objects of culture, especially small grain. This disposition may be the more safely indulged in those districts of southern country where plaster of Paris is found to have its full effect, because in such situations it may be, perhaps, advantageously made to constitute one link in the chain of rotation; for as it necessarily occasions the ground to be well worked and shaded, and kept free from weeds through the summer, nothing repays land more handsomely for a succeeding crop of small grain, than tobacco: we would not resume to read a lecture on the cultivation of this extraordinary plant, to those who have been in the habit of cultivating it; but we have reason to believe that in some districts of country where this paper circulates, a desire exists to employ a portion of their labour and capital on this object; by those to whom the tedious process of cultivating and curing it, has either never been known, or from long desuetude, is nearly forgotten; under this impression we had intended some weeks past, to have sketched some observations on the subject founded on actual knowledge—acquired in a tobacco planting country; but uncontrollable impediments have hitherto prevented us.

In the whole vegetable kingdom, perhaps, no plant can be found, the propagation and effects of which have attracted as much notice, and produced so much excitement as this disgusting—some would say, fascinating weed. It has been like the theme of poetical eulogy and the object of secular and political proscription. Popes have let loose their roaring bulls, and kings have issued their decrees against it, and well would it were if church and state would form alliance only on such occasions.

Like some other narcotic poisons, however, tobacco has made its way against the denunciations of all its enemies, and becomes more dear and indispensable to those who use it, in the ratio of its injury to their constitutions.

Tobacco is a native of this country, and was first imported into Europe about the middle of the sixteenth century by Hernandez de Toledo, who sent it into Spain and Portugal. The Ambassador of Francis II, at the court of Lisbon, carried it into France in 1560, when it was presented to Catharine de Medicis, as a plant of extraordinary virtues from the new world. The ambassador's name was Nicot, hence the botanical appellation *Nicotiana* applied to this genus of plants. The

introduction of the custom of smoking into England has been ascribed to Sir Walter Raleigh.

We are told that some tribes of the aboriginal inhabitants of this continent used tobacco, as a burnt offering, the smoke of which they supposed to be acceptable to the Gods. Thus we find that different nations address themselves to different senses as the medium for obtaining divine conciliation. While the pious Christian seeks propitiation by vocal or instrumental music, or a concert of both, the poor untutored savage explores favour and happiness through the incense of aromatic gums, and the odour of sweet scented tobacco.

"Heaven from all creatures hides the book of fate,
All but the page prescrib'd their present state;
From brutes what men, from men what spirits
know:

Or who could suffer being here below?
The lamb thy riot dooms to bleed to-day,
Had he thy reason would he skip and play?
Pleas'd to the last, he crops the flow'ry food,
And licks the hand just rais'd to shed his blood.
Oh! blindness to the future! kindly giv'n,
That each may fill the circle mark'd by heav'n;
Who sees with equal eye as God of all,
A hero perish or a sparrow fall,
Atoms or systems into ruin hurl'd,
And now a bubble burst and now a world."

It is remarkable, says a learned author, that in the days of its first general introduction into Europe no man spoke about it with coolness or indifference, but every one warmly espoused its censure or its praise. "Camden in his life of queen Elizabeth, says, that men used tobacco every where, some for wantonness and some for health sake, and that with insatiable desire and greediness, they sucked the stinking smoke thereof through an earthen pipe, which they presently blew out again at their nostrils: so that Englishmen's bodies were so delighted with this plant, that they seem'd as it were degenerated into barbarians."

Dr. Venner in a work entitled *via recta ad vitam longam*, published at London in 1638, gives a brief summary of the injuries done by tobacco.

"It drieth the brain, dimmeth the sight, vitieth the smell, hurteth the stomach, destroyeth the concoction, disturbeth the humours and spirits, corrupteth the breath, induceth a trembling of the limbs, exsiccate the wind pipe, lungs and liver, annoyeth the milt, scorseth the heart, and causeth the blood to be adusted. In a word, it overthroweth the spirits, perverteth the understanding, and confoundeth the senses, with sudden astonishment and stupiditie of the whole body."

A poetical phillippic, called 'Tobacco battered,' was published in the reign of king James, by Joshua Sylvester, in which he compares tobacco to gunpowder and pipes to guns; making the mischiefs of the two equal. But the most celebrated

of all invectives against tobacco was the 'Counterblast' of king James I. That weak monarch gave vent to his prejudices against this herb in a publication in which he professes to disprove all the alleged grounds for the toleration of tobacco, and warns his subjects in a most earnest manner, not to sin against God, and harm their own persons and goods and render themselves scorned and condemned by strangers who should come among them; by persevering in a custom loathsome to the eye, hateful to the nose, and baneful to the brain."

As to the effect of tobacco when applied in either of the three modes in which it is generally used, viz. smoking, snuffing, and chewing—the following excellent observations are extracted from Dr. Cullen.

"*Smoking, snuff taking, &c.*—Tobacco is a well known drug, of a narcotic quality, which it discovers in all persons, even in small quantity when first applied to them. I have known a small quantity of it snuffed up the nose, produce giddiness, stupour and vomiting; and when applied in different ways, in larger quantity, there are many instances of its more violent effects, even of its proving a mortal poison. In all these instances it operates in the manner of other narcotics: but along with its narcotic qualities it possesses also a strongly stimulent power, perhaps with respect to the whole system, but especially to the stomach and intestines: so as readily, even in no great doses to prove emetic and purgative.

"By this combination of qualities all the effects of tobacco may be explained, but I shall begin with considering its effects as they appear in the use of it as an article of living.

"As such it has been employed by snuffing, smoking and chewing; practices, which as having been for two hundred years past common to all Europe, need not be described here. Like other narcotics, the use of it may be introduced by degrees; so that its peculiar effects even from large quantities employed, may not or may hardly at all appear; but this does not contradict the account I have given of its quality with respect to persons unaccustomed to it, and even of its tendency to show its power in those much accustomed to it; for even in these the power of habit has its limits; so that in persons going but a little beyond the dose to which they have been accustomed, very violent effects are sometimes produced.

"On this subject it is to be remarked, that the power of habit is often unequal: so that in persons accustomed to the use of tobacco, a lesser quantity than what they had been accustomed, will often have stronger effects than had before commonly appeared. I knew a lady who had been for more than twenty years accustomed to taking snuff, and that at every time of day; but she came at length to observe, that snuffing a good deal before dinner took away her appetite, and she came at length to find that a single pinch

taken before dinner took away almost entirely her appetite for that meal. When however, she abstained entirely from snuff before dinner, her appetite continued as usual; and after dinner for the rest of the day, she took snuff pretty freely without any inconvenience.

"This is an instance of the inequality of the power of habit in exerting its effects, but in what cases this may take place we cannot determine, and must now go on in marking its usual and ordinary powers. When snuff, that is, tobacco in powder, is first applied to the nose, it proves a stimulus, and excites sneezing, but by repetition, that effect entirely ceases.

"When snuff is first employed, if it be not both in small quantity, and be not thrown out immediately by sneezing, it occasions some giddiness and confusion of head, but by repetition, these effects cease to be produced, and no particular effect of it appears in the accustomed, when not taken beyond the usual quantity. But even in the accustomed, when it is taken beyond the usual quantity, it produces somewhat of the same giddiness and confusion of head, that it did when first employed; and in several cases these effects in the accustomed, depending on a larger dose, are not only more considerable, as they act on the sensorium, but as they appear also in other parts of the system, particularly in the stomach, occasioning a loss of appetite and other symptoms of a weakened tone in the organ.

"With respect to this it is to be observed, that, persons who take a great deal of snuff, though they seem, from the power of habit, to escape its narcotic effects, yet as they are often liable to go to excess in the quantity taken, so they are still in danger from these effects operating in an insensible manner; and I have observed several instances of their being affected in the same manner as persons are from the long continued use of other narcotics, such as wine and opium; that is, by a loss of memory, by a fatuity and other symptoms of the weakened or senile state of the nervous system, induced before the usual period.

"Among other effects of excess in snuffing, I have found all the symptoms of dyspepsia produced by it, and particularly pains of the stomach occurring every day. The dependence of these upon the use of snuff became very evident from hence, that upon an accidental interruption of snuffing for some days these pains did not occur, but upon a return to snuffing, the pains also recurred; and this alteration of pains of the stomach and of snuffing having occurred again, the snuff was entirely laid aside, and the pains did not occur for many months after, nor, so far as I know for the rest of life.

"A special effect of snuffing is its exciting a considerable discharge of Mucus from the nose; and there have been several instances of headaches, toothachs, and ophthalmias relieved by this means: and this is to be particularly remarked, that when this discharge of mucus is considerable, the ceasing or suppressing of it, by abstaining from snuff, is ready to occasion the very disorders of headach, toothach, and ophthalmia, which it had formerly relieved.

"Another effect of snuffing to be taken notice of is, that as a part of the snuff is often carried back into the fauces, so a part of this is often carried down into the stomach, and then more certainly

produces the dyspeptic symptoms mentioned.—These are the considerations at relate to snuffing, and some of them will readily apply to the other modes of using this drug.

"*Smoking*, when first practised, shows very strongly the narcotic, vomiting, and even purging powers of tobacco, and it is very often useful as an anodyne; but by repetition these effects disappear, or only show themselves when the quantity smoked is beyond what habit had before admitted of; and even in persons much accustomed to it, it may be carried so far as to prove a mortal poison.—From much smoking all the same effects may arise which we said might arise from excess in snuffing.

"With respect to the evacuation of mucus which is produced by snuffing, there are analogous effects produced by smoking, which commonly stimulates the mucous follicles of the mouth and fauces, and particularly the excretories of the salivary glands. By the evacuation from both sources, with the concurrence of the narcotic power, the toothach is often greatly relieved by it; but we have not found the smoking relieve headachs and ophthalmias so much as snuffing often does. Sometimes smoking dries the mouth and fauces, and occasions a demand for drink; but, as commonly the stimulus it applies to the mucous follicles and salivary glands draws forth their liquids, it occasions on the other hand a frequent spitting.

"So far as this is of the proper saliva, it occasions a waste of that liquid so necessary in the business of digestion; and both by this waste and by the narcotic power at the same time applied, the tone of the stomach is often weakened, and every kind of dyspeptic symptoms is produced. Though in smoking a great part of the smoke is again blown out of the mouth, still a part of it must necessarily pass into the lungs, and its narcotic power applied there often relieve spasmodic asthma; and by its stimulant power it there also sometimes promotes expectoration, and proves useful in the catarrhal or pituitous difficulty of breathing.

"Smoking has been frequently mentioned as a means of guarding men against contagion. In the case of the plague, the testimony of Diemerbroeck is very strong; but Rivinus and others give us many facts which contradict this: and Chevreton gives a remarkable instance of its utility. We cannot indeed suppose that tobacco contains an antidote of any contagion or that in general it has any antiseptic power; and therefore we cannot allow that it has any special use in this case: but it is very probable that this and other narcotics, by diminishing sensibility, may render men less liable to contagion, and by rendering the mind less active and anxious, it may also render men less liable to fear, which has so often the power of exciting the activity of the contagion. The antitoxic powers of tobacco are therefore on the same footing with those of wine, brandy and opium.

"The third mode of using tobacco is that of *chewing* it, when it shows its narcotic qualities as strongly as in any other way of applying it; though the nauseous taste of it commonly prevents its being carried far in the first practice. When the practice, however, is continued, it is very difficult to avoid some part of it dissolved in the saliva from going down into the stomach, so this, with the

nausea excited by the taste, makes vomiting more readily occasioned by this than other modes of applying it. They are the strong, and even disagreeable impressions repeated, that give the most durable and tenacious habits, and therefore the chewing of tobacco is apt to become one of these; and it is therefore in this way that it is ready to be carried to the greatest excess, and to show all the effects of the frequent and large use of narcotics. As it commonly produces a considerable evacuation from the mouth and fauces, so it is the most powerful in relieving the rheumatic affection of toothach. This practice is also the occasion of the greatest waste of saliva; and the effects of this in weakening digestion, and perhaps from thence especially, its noted effect of producing *emaciation* may appear!"

The previous observations and extracts having been introduced, more for the amusement of the reader than for practical use we proceed now to describe, minutely the process of cultivation and preparation for market—this description having reference to the practice and opinions of the best planters may be safely relied upon.

A very strong prejudice has been established against this plant, under the impression that its cultivation is necessarily attended with the exhaustion of the land. This prejudice, there is no doubt, was well founded, prior to the introduction of those two powerful agents for recruiting and renovating exhausted lands, *Clover and Plaster of Paris*. Until then, there was no considerable resource of manure, except the cow-pen and the dung-hill—which were in their nature very limited and the more so because it not being possible where there were no natural meadows to provide clover hay or a large quantity of winter food, it was of course, not practicable to sustain a large live stock. The tobacco planter was under the necessity of robbing all the rest of his farm, to keep up the fertility of his *tobacco lots* which called for every cartload of manure that could be collected, to counteract the exhaustion caused by an unceasing cultivation of these lots from year to year. We are inclined, however, to believe, that the use of clover and plaster, where the latter is found to act well, strikes at the foundation of this prejudice which existed against tobacco, previous to the acquisition of these two recruiting agents—by the aid of which, the exhaustion produced by cultivation, once in four years, is *more than counteracted*; wherever plaster of paris, will take effect upon clover, the whole farm may by the use of them alone, be kept in a state of continually increasing fertility, and it has been found in Prince Georges and Anne Arundel counties, that land worn out by the old murderous three shift system of corn, wheat, pasture—corn, wheat, pasture; will in these districts, after one or two crops of clover, produce excellent tobacco without any other manure—at all events they will produce fine wheat and corn, leaving the farm pen manure for tobacco land; so that the cultivation of tobacco is no longer confined to particular spots.—The question is no longer, where can I find land rich enough to make tobacco? It is, where shall I find force sufficient to cure all I can make?

Preparation of Seed. The seed should be intimately mixed with ashes, which should be previously sifted or otherwise well cleared of coal

and other litter—Hickory ashes would no doubt be best, and the proportion of seed and ashes to the size of the bed; should be, say two tea cups of seed to one half bushel of ashes for a bed of thirty yards square. If the bed be made in a moist situation, or on *fresh* land, a smaller quantity of seed will answer—as a greater number will vegetate.

Beds.—Beds are usually made, in new land, in *warm exposures*; most likely to ensure an early and rapid growth of the plant—but the same spots have been found to answer many years in succession, by manuring them from time to time; for this purpose the most approved manure, and that which is perhaps most conveniently applied, is obtained by penning sheep in the spot intended for use; where beds are thus continued, there is no doubt it would be advantageous to cover them thickly as soon as the planting season has passed by; being thus completely shaded nothing would take root and the beds would be less infested with weeds in the spring. The space intended to be sowed should be well covered with brush, and then burned, and the ground should be then instantly dug up, well pulverised with the rake, and immediately sowed and the surface then made compact by being trodden over to keep out drying winds.

Time of sowing and management of the bed. It is thought the best practice to commence the first of March—sowing one bed then, one the middle and one the last of that month, or the first week in April—a greater or less number according to the quantity of ground proposed to be cultivated; it is always desirable to have one bed sowed as late as is here mentioned. The weeding of the tobacco bed is done by hand, and is usually commenced when the plant is about the size of a little finger nail, so as to be easily discernable from any other species of vegetation. It will be found necessary to pick over the bed, and clear it of grass and weeds, twice before the plant will be large enough to cover and shade the ground and take care of itself; and experience proves that it is highly advantageous to cover the bed thinly, immediately after it is sown, with leafless brush. It breaks of the bleak drying winds and frost, and is known to protect the plant from the ravages of the fly.

Of late years much difficulty in providing a good stock of plants, has been occasioned by severe droughts—could not this be obviated, where good situations offer for making beds near a stream of water? and would it not repay the labour and trouble, to have a large tub standing near the stream in which there should be placed one or two bushels of fresh manure from the cow yard, and then filled with water. The beds being occasionally sprinkled over with water, thus impregnated, would ensure to the plant an early and vigorous growth. The whole additional labour which would ensue by adopting this practice, might be performed by one good hand—and when it is considered that on an early supply of good plants as much depends, as on the key stone of an arch, it must be admitted that in case of drought—one labourer could not be more profitably employed.

Preparation of the ground for planting. If the ground proposed to be cultivated in tobacco be in a stubble or tough sward of any kind, it will re-

quire to be ploughed up as early as possible, and the ploughing should be repeated until the ground is well pulverised, when the custom is to have it "laid off" in hills at the distance of three feet—the stronger the land the more distant, of course, should be the hills.

We cannot but believe that in this stage of the planter's labours, there is room for material change and great improvement. Instead of having the whole field, scraped up into small *hills*, exposed on all sides to the drying powers of sun and wind—why not obtain by deep ploughing and thorough harrowing and rolling; the depth and fineness of soil and smoothness of surface, which is now obtained by the tedious operation of *making* each individual hill, by half a dozen strokes of the hoe? To this suggestion, sometimes made in conversation, we must confess we have never heard any but vague and unsatisfactory objections.

It has been said that the surface being flat, the plant would be in danger of being "drowned"—but that objection presupposes the old practice of shallow ploughing—and is, in that case, applicable to every other species of crop. If the plough has run its proper depth, there will be no danger of drowning the plant; the earth will absorb infinitely more rain, and be less liable to the effects of drought in the ratio of the depth; to which the plough has penetrated in this way; under a *smooth surface*, the plant will be protected from a much more dangerous element, and one which far more frequently overtakes and destroys it—*fire*, or drought. If the land naturally *lies* so that water would be apt to settle about the plants, that will be guarded against by a method well known to all neat farmers; water furrows, trained with judgment in such direction as to take off the superfluous water.

Another question asked is, how are you to know where to stick in your plant? By a method far more accurate and true than hills; make a sled to be drawn by one horse, as in the shafts of a sleigh, with a piece across the ends, behind the horses heels; having through it three or more pegs to scribe the marks at the proper distance each way, then drop the plant in the check.

In old times it was the custom to plant cabbages in hills, but does any one think of doing it now, any more than of "sending home" to mother Britain for cords to tie the tobacco on the stick, as we are told in Captain Smith's History of Virginia, was formerly the practice in that province? The largest cabbages are to be made by *shading* up the ground, the deeper the better, no doubt—even were it three or four feet, and planting on an even surface. So ground deeply ploughed, well harrowed, and then rolled and marked off is in the best state, as we incline to think, for a sure crop of tobacco, the root of which we have known to penetrate into the *vault of a grave*; that is a deep grave dug in the good old fashioned country stile, which leaves the tenant no chance of getting out himself, or of being taken out by young "Virginia Doctors," who it is well known, whether right or wrong, are made the scape goats in the city of Brotherly love, for all sorts of devilment.

The sooner the planting succeeds the last

stirring of the land, the better; and it should always be remembered, the freer the hill from clods, the more thriving will be the growth of the plant. The plant should be inserted in the hill with the root as nearly perpendicular as possible; and those seasons are considered most favourable, when the fall of rain has been just enough to moisten the ground, so that the plant can be well fastened in the hill.

The first operation, after the plant begins to overspread the hill, is with the plough—the hoe then immediately follows, to disencumber the plant of too much earth, which may be thrown about it by the plough.—The land should be occasionally ploughed each way, harrowed; and a small hill raised about the plant with the hoe. The oftener the ground is stirred, the better, but one general remark, universal in its application, may here be made. *That nothing is so pernicious as ploughing lands when too wet; it "clods" and "bakes" and never recovers until corrected by the pulverising effect of the succeeding winter's frost.* When the plant begins to "button," that is, when the flower begins to develop and show itself, it should then be topped, an operation which is usually performed twice on the same plant, and the rule of observed is finally, to leave on the stalk 15 or 20 leaves, according to the strength of the ground—the stronger the land, of course the greater number of leaves may be left.

Under the colonial government in Virginia, the number of plants cultivated, in relation to the number of hands, as well as the number of leaves to be left on each stalk, was regulated by law; from an historical and practical essay on the culture and commerce of tobacco, by William Tatham, published in London in 1800, we extract what he there says about "topping the plant" for the special amusement of our Virginia friends.

"This operation is simply that of pinching off with the thumb nail."†

In the progress of its growth, tobacco requires to be twice "*suckered*," that is, to have the young shoots removed, which push out just above, and immediately at the junction of the leaf and the stalk.

If these shoots were not carefully removed, they would absorb that portion of nutriment which should be reserved exclusively to push forward and increase the size and thickness of the leaf. Pruning being in this respect, similar and more indispensable than the pruning of fruit trees.

Cutting.

The ripening of the plant is indicated by the leaf becoming of lighter colour, thicker and more gummy; when first cut the leaves are very brittle, pains should therefore be taken to handle it gently and to lay it straight, that it may be as little as possible broken or bruised. Soon after being cut, the leaves fall and become pliant, so that it may then be handled without bruising, or breaking, and it ought to be then put in heaps, the tail of the plant from the sun, and removed to the tobacco house as soon as practicable to keep it from being sunburnt. The better to

† The one horse shovel plough is found highly useful in working tobacco.

‡ Many of the Virginians let the thumb nail grow long, and harden it in the candle, for this purpose, not for the use of gouging out people's eyes as some have thought fit to insinuate.

* In a French treatise on the cultivation of tobacco published in Paris in 1791, we find an engraving representing tobacco as being thus tied on the stick.

avoid this evil, it is always preferable to cut after midday if practicable.

Hanging.

There are two modes of hanging tobacco, to be cured. One is to split down the stalk through the middle near to the bottom; this is done with a "splitting knife," made for the most part out of two or three inches of an old scythe blade let into one end of a long handle. This operation immediately precedes the curing, and in this case the plant is straddled across the tobacco stick.

The other mode, and the neatest and best one, is, to drive pegs, about four inches long, into and near the bottom part of the stalk, the peg inclining down towards the tail of the plant so as readily to hook on the stick, which generally bears seven or eight plants according to their size.

When the plant is considerably cured, for which a few weeks will suffice, the house may then be rehung, when that which at first filled the house, will not occupy more than one half its original space—the sticks being then placed nearer to each other and hung with one third more plants. The balance of the house will remain to be again filled with tobacco from the field.

Stripping.

This is the next thing to be done, and may be commenced as soon as moist weather offers an opportunity. After the stem of the leaf is thoroughly cured an experienced hand first takes the stalks, and selects and takes off those leaves which will not pass for crop, or good tobacco, and then throws it to others who tie up the balance separately. The whole is tied up in bundles about as thick as the upper joint of a man's thumb. A good labourer will strip of ordinary tobacco 150 pounds a day.

Bulking.

Immediately after stripping, tobacco is laid down in bulks the width of two bundles, the tails of each bundle overreaching the other a few inches, and the heads of the bundle, of course, forming the outside of the bulk. This task is consigned usually, to the overseer, or leading workman, who, as he places the bundles with his hands, follows on compressing them with his knees, from one end of the bulk to the other. It is curious to see how a good hand will thus rear his bulk, breast high, with perfect perpendicular precision, as if struck with a plumb line. These bulks are left to stand through the winter, but must be closely watched in the spring, or, when they begin to heat, which they generally do in April, or when the sap rises, the tobacco must then be shook out, and hung upon sticks to cool and dry. Being thus dried, the first damp weather, as soon as it begins to give, as the planter phrases it, so that it may be handled without breaking, it is the custom to rebulk it, the width of four bundles—from these last bulks it is finally carried to the prize.

§ If hung too close it will "house burn" and the leaves drop off from the stalk.

Tobacco Houses.

The most common size of a tobacco house formerly was 40 feet long by 24 feet wide—and 12 feet pitch—latterly, they are made larger, but it is thought to cure better in smaller houses—one of the dimension here specified will cure in the common way, without firing, or scaffolding, about five hog-heads and the common weight of a hoghead is in Maryland, from 800 to 1100 pounds weight.

Having spun out this crude sketch to a greater length than we anticipated, we must defer to another number some remarks on pricing, and the manufacturing of chewing tobacco, together with some reflections on selling the article, designed to guard the grower against double dealers.

ON STONE FENCES.

FOR THE AMERICAN FARMER.

Ridgeway, Feb. 25, 1820.

Dear Sir,—I send you for publication the subjoined letter, which I received a few days ago. Independent of the new and valuable information it contains upon the proper construction of stone fences, I must acknowledge to you, Mr. Editor, that I feel a particular and personal gratification in the communication; for you must know, that I have encountered a good deal of ridicule, from having advanced the bold assertion, that under the most favourable circumstances, a stone fence is the cheapest. Supported as I now am, by such respectable testimony as that of Judge Holmes, I shall not fear to encounter the opposition. With a feeling of gratitude, for your useful exertions in the cause of Agriculture, I remain your obedient servant,

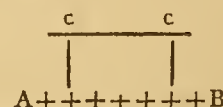
P. MINOR.

Winchester, Feb. 9th, 1820.

Dear Sir,—Reading this morning your letter to the President of the Agricultural Society of Albemarle, on the subject of stone fences, and being engaged myself in improving my farm, as you are, by making them; I have supposed that a communication of my experience might be useful to you, and through you to the public.—To the advantages which you have enumerated, may be added, lessening the blacksmith's account, and when your fences are complete, throwing more land into cultivation, by clearing that which you do not want for rails or fuel.—My farm contains 900 acres of rich limestone land—600 acres are cleared and 300 in wood. When I shall have surrounded it with a stone fence, I can without a violation of the proper portion of arable and woodland, clear 100 acres more. The product of this 100 acres, besides the value of the wood, I place to the credit of the stone fences.

I have made a great deal of stone fence, but have never, until within the past year made any that did not fall down in the winter and spring, by reason of bad construction, and the distention and subsiding of the earth by frost. If I don't succeed in describing my new fence so that you can understand me, (and I fear I shall fail on account of my awkward pen at a diagram) you must come and see it, and I need scarcely add, that I shall be very happy if you will do so. My fence was built by a Scotchman who came over about two years since, and is now living on my land, and building stone fences. He brings with him all the late improvements in Scotland on this fence. The foundation is dug 2 1-2 feet wide and 6 inches deep—filled to the surface with small stone.

He then places stones on the edge of the foundation that will reach beyond it, about 6 or 7 inches, resting on the ground, and covering the foundation with small stone 7 or 8 inches. He then starts the wall upon the horizontal line A B,



Hearts it well, as he calls it, in its assent, but at the height of 18 inches he puts on a binder that reaches from side to side of the wall as at c c. These binders are one yard apart the whole length of the wall. He builds, 18 inches higher, and runs through another binder, not immediately above those laid at the first 18 inches, but in the centre between them, so as to form a triangle. He caps with stones that reach across the wall, which is only a foot at top: two stones, one over the other, compose the cap. I asked the workman of what advantage was the jutting over of the bottom? He answered, (as is customary among many of his countrymen) by asking another question. Don't a man stand more firm by extending his legs, thus A, than when his feet are close together.

I have detected a great error in the information communicated to you by Mr. Moore. He says, dig no foundation, and let no stones go through until the last course. I have built some fence without a foundation, and am obliged every spring to rebuild most of it; and you see in my improved fence, I have three binders in every longitudinal yard, besides the two top stones, and so disposed as to bind from top to bottom. Suppose you start the wall 2 1-2 feet thick, and batter it up to a foot at top, would a stone of one foot at the top, bind the two feet work near the bottom?

You are correct in stating that a stone fence is the cheapest. Let us compare it with the cheapest and most worthless, the common worm fence, rails will sell here for 5 dollars per hundred—to make one rod of this fence

you must have 25 rails, worth 1 25 cents. Exclude the labour of putting it up, and various other items, but keep in view the idea of permanency. My improved stone fence costs me 1 dollar per rod, and the workman mends himself. When I don't employ my own hands, I hire the hauling of the stone at 66 cents per rod: then it costs me 1 66 cents per rod. It will last for ever, and the workman says it is considered a bad fence in Scotland, if there should be a gap found in it, within forty years after it is built. But in forty years, besides up-setting, the worm-eaten will require three if not four renewals; and it is fair to add this additional expense of 4 dollars per rod to the original cost of the worm fence, when we are comparing it with a permanent one.

I congratulate you, dear sir, on the prospect before us of great improvement in the science of agriculture, and the implements of husbandry. The Agricultural Societies will be the means of collecting much valuable information, and that excellent paper, the *American Farmer*, printed at Baltimore, by Mr. Skinner, will be a prompt agent in diffusing it. If you are of opinion that this letter would be of any service to the public, you may send it to Mr. Skinner.

Very respectfully,

Your ob't. serv't.

HUGH HOLMES.

Peter Minor, Esq. }
Albemarle. }

TO THE EDITOR OF THE AMERICAN FARMER.

On Barley.

Brandywine, 28th 2d mo. 1820.

Mr. Skinner:

Some remarks on the culture of barley, which appeared in No. 40, in reply to Sidney's inquiries concerning a fallow crop, have occasioned communications to me direct on that head.

Therefore, believing it might be of use to give a little more public information—I shall take the liberty to suggest the propriety of stating the price of it in the *American Farmer*, as it rates generally higher in Baltimore, than any other market in the United States—why is it so? I see no other reason but the neglect of culture in the state of Maryland: the brewers of that place have to obtain their supply from the vicinity of other markets, and are obliged to give a price that will induce the farmers of Pennsylvania and Delaware, to send it to them.

As a fallow crop, I shall refer to No. 40, to avoid taking up room here in detail, as well as the mode of culture, which in my humble opinion, would be instrumental in renovating much of their exhausted lands—but the impression is too general, that land too poor for barley, will bear oats. As any soil worth

cultivating with Indian corn, is considered worth sowing with oats, by that mode of culture, which is very common, not only in Maryland, but a large portion of Delaware and the western parts of Chester county in Pennsylvania, poverty is perpetuated, and I should venture to say, will never be remedied under that course, without the aid of manures.

There is much dependant on the prudent management of land, for the culture of barley, more than its natural fertility alone. When I speak of exhausted lands, I don't mean that a crop of barley shall be produced from it, until in some measure renovated—but I have observed, that a very moderate degree of renovation has produced the best of grain in moderate quantities. I have had experiments of this in my own culture, and shall here quote one instance in my neighbourhood.

A renting farmer was remarked for generally having good barley—he farmed a friendly soil, naturally fertile and well farmed, so that there was reason to expect a good product. But some years past, he purchased a small farm, entirely exhausted; a neglected common, not worth keeping enclosed—the purchase absorbed all his capital and he had nothing left to improve his land—except a small stock of cattle, which he found difficult to provide for the first winter. But cultivating some of the land in Indian corn, and collecting every thing about the buildings that was like manure—this crop was better than was or could be expected, and served fodder.—His next object was barley—he continued his collections, and with the aid of his stock manured the spring following for barley, and had a handsome crop, weighing 52 pounds per bushel; the quantity I do not recollect, but the weight I well remember, as I weighed it myself—and further, I may say, that the produce of that single crop he informed me, paid for as many acres of land, as the barley grew upon—the price was twelve dollars an acre, at public sale—the barley sold at one dollar and ten cents by the bushel.

The succeeding crop was wheat and clover; increasing the stock of manure since that time, he obtained a few loads of lime, and with the aid of other manures, no land in the country now excels his in barley for weight of grain; and he has excellent hay now, from fields that were not worth owning in their former condition.

I should not have noticed those little incidents, but as they are incontrovertible facts, they may excite and encourage some individual in like circumstances, having worn out land, with no means but its own resources to aid the improvement; here is ample proof. (to my mind at least) that it is possible to raise land into a state of fertility from its own resources; and barley is a crop that contributes as much to the better condition of the soil as any in use amongst us. The straw, if saved from wet, is good fodder, especially as

it ranges; the grain has more than found a good market, and at the present juncture, brings a better price than wheat, according to the labour required in each crop—a may be ready for market in four months, when wheat will require near twelve from the time of sowing; it is generally cultivated as a fallow crop, but if grass is wanted speedily, clover will agree as well, and generally considered better, with barley than any other grain. The time is near at hand for sowing; those who ploughed their stalk ground in the fall are now sowing, though a month earlier than many sowed last season; the late sown barley can't have time to fill a good grain in our hot climate, that hastens the ripening at a certain period, whether full or not. The grain was small last year in consequence of too late sowing, the ground was too wet till it was almost out of season, except a few instances sown in the open weather, in the fore part of this month, which was better, but the whole of the third month (March) is considered seasonable for our climate, when the ground is dry enough to work. Some further observations on the use of this grain, so little understood amongst many of our farmers, will follow.

C. K.

For the American Farmer.

CIMEX LECTUARIUS:

THE BED BUG.

Mr. Skinner:

I think the following essay may be placed under the head of domestic economy, to which I see your paper gives a free reception. You will permit me to introduce it by relating a small part of the travels of one of my neighbours; which may be excused because it is not a fiction, but a fact. Some time last fall my friend had occasion to go out to Wheeling, about a law suit: on his return home he was surrounded by his neighbours to bid him welcome, as well as to inquire the occurrences of the road; for you know that travellers always bring home some news, but alas! most of them have a bitter kernel. The most remarkable occurrence, and the only one I shall mention, met with in his route was that he had discovered a public house on the road where they charged nothing for bedding. The author of the *Western Woodpecker*, (a small journal published at Washington) though not lucky in this great desideratum, sometime before made another important discovery, and lodged at a tavern on the same road where they had prayers night and morning.

These good things taking place on a new turnpike, pleased me very much, and I conceived at once that travellers would always stop at such hospitable and moral places. Indeed some of the bystanders committed themselves by declaring (before they heard the sequel) that they never would pass the hospitable landlord, if ever they should travel to Wheeling. But when we had heard the whole story of the night out, our sensations were much altered, and our desire to see the philanthropic landlord considerably abate.

ted. My friend being very much jaded on his arrival at the aforementioned inn, resolved to retire to bed at an early hour; he had scarcely extinguished the candle and stretched out his weary limbs, when he experienced an attack from the advanced guard of the enemy. Being a man of courage, and supposing this to be the whole army, and what was common in such places, he resolved to lie still and defy them; but a few moments convinced him of his error: he found the camp attacked in its whole length. Files, phalanxes and legions advanced to the charge, and he was soon compelled to retire from the bloody combat. He retreated and took post insulated in an old chair, and with no small irritation of body and mind, rocked out the night, and hailed with joy the tardy morning. Now, mark the virtue of my friend. He took the landlord, or rather buglord, aside, and told him privately of the treatment he had met with, and advised him of the consequences of keeping such filthy beds and insufferable chambers. The man of the house being struck with such unexampled forbearance, *refused to make a bill for supper and bedding*, and so the case was dismissed. But since my worthy friend has prevented my declaring war against the landlord, (for he has scrupulously withheld his name) I have resolved in my wrath to wage a more general and extensive war against the bed bugs themselves.

Now, my good antiquarian friends, please to lend me your assistance (for I suppose you to be skilled in ancient history as well as in medals) and inform me if any of the Arabian, Grecian, or Roman historians have given the history of the Cimex, or whether you have discovered on any medals or coins the likeness of this terrible insect. It will be in vain for you to say that such vermin were not worthy the notice of the great men of antiquity, when Mr. Gibbon has spoken from authority so freely of the lice that were permitted on his friend Julian's beard. But if you refuse me the favour I will apply to some of the boys of senior classes in the boarding schools, who I have no doubt will take a lively interest in my success. I am more solicitous to know about the Roman writers, because I find what was the ancient Roman territory is not now exempt from these insects; and if not infected formerly, but latterly, we might come at the cause and extirpate these vermin at a blow. Many moderns have certainly thought them worthy of notice, and Mouffet says, "This troublesome inmate has attracted the notice of almost every naturalist, and it were well for the rest of mankind that the knowledge of it had been confined to them." To show that the ancient Roman territory is not now exempt, I will quote what an elegant writer of natural history says of these places. "Throughout France, Spain and Italy the beds in most of the inns swarm with bugs, and every piece of furniture seems to afford them a retreat. They acquire a greater size as the climate is warmer; they are more active, and bite with a more cruel appetite.—There the weary traveller who is subject to be bitten, remains the whole night like a centinel on duty, and instead of inviting the approaches of sleep, watches the attacks of innumerable invaders who are ready to gorge themselves with his blood."—*Nat. Hist. in 3 v.*

What a parallel with the experience of my friend on the road to Wheeling! Naturalists

have divided this large genus of Cimex into 11 families, or legions if you please, and place the Cimex Lectuarius at the head, as if it were the standard bearer; and notwithstanding the British writers boast that their favoured isle is in a great measure exempt from them, I believe that they have fully pervaded it, as much as I believe that Cæsar's legions invaded it. Naturalists also inform us that this bug belongs to the order Hemiptera, that is, insects with semiconcealed wings half covered with Elytra (an outward covering) and that this same Cimex Lectuarius alone of all the family of 121 species, is without either wings or Elytra. Now sir, I am no naturalist, but I cannot help remarking on this seeming deficiency, that those who mean to fight hard, never incur themselves with coats; and desperadoes always supercede the means of their own flight, as well as that of their opponents; we have therefore much to fear from such savage enemies. The author of the new system published at Edinburgh whom I have before quoted, mentions the principal articles used against them, viz: corrosive sublimate, verdigris, soap, and snuff,—but places little reliance in any thing but the smoke of peat, which he thinks *infallible*, and if so, it is a great discovery, worthy the attention of the southern hemisphere at least, if not of the whole world. But as peat is not to be found every where, and I am in the habit of making out recipes, I will take the liberty of giving a formula for a corrosive sublimate wash; as also to add a preparation that is very promising, and used by some good housekeepers.

No. 1. Take corrosive sublimate mercury one ounce, crude salammoniac half an ounce, water one quart, let it stand a few days and lay it on the joints of the bedstead with a brush every week, till it forms a small crystallization.

Note.—This is very poisonous, and perhaps would be well substituted by a strong solution of blue vitriol, or blue stone as it is called.

No. 2. Take Spanish flies, finely pounded 1-3 of an ounce, soft tallow 2 ounces, Venice turpentine 1 ounce, melt the tallow, and when nearly cool, mix all well together, put this in the joints of the bedstead; the ropes may be dusted with Scotch snuff, or red pepper.

Note.—Not dangerous.

But after applying these remedies, (the peat excepted) we have still much to fear, and we ought to find out some less dangerous and more convenient methods of getting rid of the bed bugs. We are not without a clew to guide us to this desirable end. It has been ascertained that insects, and almost all small animals are much guided by *smells*, nearly as much so as by eyesight; they approach that which they delight in, and retire from that which disgusts them. They are very odiferous themselves, witness the subject of this essay. Worms, though no insect, have been easily repelled by the flavour of the oleum chenopodii, or wormseed oil, when the strongest purgatives and poisons would not dislodge them. Rats have been enticed by oleum

rhodii to run over the bodies of ratcatchers in open day; and it is said that the smell of dried hounds-tongue, is extremely obnoxious to them, as also the flowers of smilax pseudo cassia. One of your correspondents I think has mentioned oil of sassafras, as a remedy against bugs; and

it is a fact, that the essential oils are the chief vehicles of smell. The oil or spirit of turpentine, is so obnoxious to bed bugs, that newly painted houses are always free from them for a while, and it would be a good practice to leave some pieces of sponge soaked with spirit of turpentine and oil, to exhale this effluvia in houses, when not occupied. The antidotal powers of every essential oil, domestic and foreign, should be tried with as much patience as Dr. G. tried the pharmacopeia for a remedy against the late yellow fever, though a discovery should not be kept secret. Perhaps the exhalations of some of these oils, might produce the reward of a new crop of hair with a patent to the experimentalist, and thus prevent the export of a large sum of money to Macassar. But to come to the point, after so much evasion, can we not annihilate or neutralize the flavours that entice the bugs? can we not find out what those flavours are, which are so delightful to them? Is it not the flavour of uncleanness? The buckbasket is an old offender, beyond the days of Falstaff; but besides that there is a phosphoroammoniacal smell, exhaling all night, and perhaps all day, from certain queensware vessels, too much in use with the delicate, and a most dreadful nuisance in some public houses.* The management of the buck, is exclusively the province of the chamber-maid, quick and distant removal is the remedy, but the latter nuisance, I conceive, may receive some aid from Chemistry, independent of quick removal and scouring and sunning, the exhalations left in the chambers, are not to be removed so quickly even with airy windows, for it adheres to every thing, even the bed clothes and ceiling. This abominable ammoniacal flavour, is the same that poisons stables; and I have often removed it speedily, by taking a red-hot shovel into the stable, and pouring on a cup of vinegar; the ammonia, which is so offensive to the horses' eyes as to blind them, sometimes is thus neutralized in an instant. Now, I conceive that this would be an admirable practice, in such dirty inns as the one my friend lodged at, and if I am correct in the Cimex loving this ammoniacal flavour, it would disappoint them most grievously; and I am more and more of this opinion from considering the chemical qualities of peat, which on burning pours out a sulphurous acid vapour equally destructive of ammonia. If then the vinegar volatilised by heat, will answer the same purpose as peat, the whole world may have a remedy, for either peat or vinegar is to be found in every land. I cannot give up this warfare, without giving a hint to Joiners, that they have not done their duty; are there no aromatic woods to make bedsteads of? where is cedar, cypress, &c.? There is utterly a fault in the construction of bedsteads, it would seem that a bedstead with its pins and ropes, is one of the most complete forts that could be constructed for these enemies of rest. If there was an independent frame to the sacking, a few pins or screws would help the frame, but

* I strongly suspect the old Romans had none of these queensware vessels, though at present it is so common in the old territory, that Brydone mentions an old Sicilian nobleman, who made columns of them, by placing one in the other, beginning with the largest.

the best plan would be, if the bottom consisted of several light frames, to drop into rabbits, with packing neatly secured, such might be taken out every day and brushed with a stiff brush.

If the Joiners are not more attentive, I must apply to Glass Makers, to try their hands, as they have made many inventions; or get a pattern of the King of Basan's iron bedstead, and send it to the Foundries, where it can be cast without joints and burned without consuming.

TRAVELLER.

Kitchen Garden, for March.

From the Practical American Gardener, published by Fielding Lucas, jun.

The weather in this month, both in the middle and eastern states, is very unsettled; sometimes dry and frosty, at others tolerably warm, and at other times, cold and wet, with storms, wind, hail, rain, &c. requiring close attendance on the hot-beds, to preserve a regular heat at all times. Snow should never be suffered to lay on the mats, or other coverings. This will apply to the cucumber and melon beds, as well as to all other hot-beds.

Sow Cucumber and Melon Seed

Sow in the hot-beds, made last month or in new hot-beds, now to be made, if not done before, cucumber and melon seeds, at the beginning, middle and latter end of this month.

Making new hot-beds to transplant Cucumbers and Melons.

Make new hot-beds the beginning of this month to plant the cucumbers and melons, which remain in the seed beds of January and February. Make the beds as directed in February, and let the plants be planted therein and managed as directed in last month.

Impregnating the fruit of Cucumbers and Melons.

Still continue to perform this important office, to the plants as directed last month.

Cauliflowers to transplant and protect.

Where cauliflowers were raised from seeds sown last month, they should (when they have grown three inches in height) be pricked into a new slight hot-bed, at the distance of three inches every way as directed in February.

By pricking out the plants on a slight hot-bed, it will forward them considerably; and by thus transplanting them they will become strong, and well furnished with roots, and consequently will succeed much better when planted out, where they are to remain, than if transplanted there from the seed bed.

The autumn sown plants, and those which were transplanted last month, from the January sowing must now have plenty of air, at all suitable times, when the weather is fair in order to harden them for bearing the open air, when planted out for flowering, which cannot be done with safety, in the middle states, till the second week in April, nor in the eastern states until the latter end of that month, unless you have hand-glasses to cover them, in which case they may be planted out about the middle of March, provided the ground is in a suitable condition to receive them.

On the judicious treatment of the plants, in this month, depends their future success.

Sow some cauliflower seed, on a warm border, towards the latter end of this month, to produce their heads in October.

Planting and Sowing Cabbages.

As early in this month as the weather will permit, which in the middle states from the 15th to the

20th, transplant all kinds of cabbage plants, particularly the early kinds, where they are to remain for heading.

Let them be planted in good, rich ground, at two feet and a half for the early kinds; but the late, large cabbage plants should be set three feet apart.

Plant out red cabbage plants, to head in August, and allow them three feet every way.

Sow seeds of every kind of cabbages which you desire to raise, in the open ground, about the middle or latter end of this month. The early Smyrna, early York, Battersea and sugar loaf are the early sorts. The large flat Dutch, drum head, large English and Savoy, the late kinds, which should also be sown at this time, as they will produce larger and better heads than those sown later.

Broccoli.

Sow some seed of the purple and some of the cauliflower broccoli, for early crops, in October, &c.; sow a little of each kind about the middle or latter end of the month, in an open bed of rich earth, and rake them in: when the plants come up, treat them as directed in May.

Borecole or Curled Kale.

Towards the latter end of this month, sow borecole seeds, for use in autumn.

There are two principal sorts, the green and brown; both very hardy plants, with tall stems, and full heads of sleek, curled leaves, not cabbaging, and are desirable open greens for winter. For the method of treating it see April.

Spinach.

Sow spinach every three or four weeks, to have a regular supply; for the plants of one sowing in spring and summer, will not continue fit for use longer than that time, before they run to seed. The seed for spring and summer is the smooth round sort. The seed should be sown thinly, broad cast in beds; you may sow radishes with it.

The crop of winter spinach, which was sown last autumn, will now be in good perfection. It should be kept clear from weeds, and the ground well stirred with a hoe.

When spinach is hoed or hand-weeded, the plants should be thinned to three, four or five inches distance.

Parsnips.

Any time after the middle of this month, you may sow parsnips for a full crop. A spot of light, deep loam, inclining a little to sand, and in an open situation, should be chosen for them, as they will thrive best and grow largest in such soil.

The ground should be trenched and well broken, also if it has been well manured in the fall, and turned up two spits deep, the crop will repay the trouble.

The seeds may be sown in drills ten inches distant from each other; when they are about three inches high, thin them to about four inches apart in the rows.

Or a dibble may be used to make large deep holes, which, if filled up with light and very rich earth, two or three seeds may be sown in the centre, and when the strongest plant can be distinguished, pull out the rest, the remaining one will sometimes grow to the diameter of thirteen or fourteen inches.

The parsnips which were sown in October, should now be kept clear of weeds, and the ground often stirred between the rows, which may be done with great facility by a small rake with short teeth, a few minutes being sufficient to harrow up and down several rows.

Some raddish or lettuce seed may be thinly sprinkled over the bed, after the parsnip seed is sown, as before directed.

Carrot Seed.

Carrots may be managed precisely as directed for parsnips, sown thin in drills eight to ten inches dis-

tant from each other, and when they have grown about three inches high, thin them to three inches in the rows. Previous to sowing carrot seed, it should be well rubbed in the hands with sand, in order to separate the seeds, as they adhere closely to each other.

Sowing Peas.

As early in this month as you can get the ground in a good condition, that is dry and mellow, you may sow a full crop of peas. The early kinds are, the early frame, golden and Charlton hotspurs. Let these be sown in double drills and the rows three and a half feet asunder. All the crops of peas, to be sown now, are to be placed in open situations.

Sow, at the same time, the bunch or dwarf pea, which comes to perfection much later than the foregoing; the drills of this kind, need not be more than three feet apart.

The glory of England, large marrowfat, Spanish morotto, or large imperial peas, should be also sown, as they will regularly succeed the early crops. Give all the peas sticks in proportion to their respective growths, in order to ensure an abundant supply.

The golden, or early hotspur, may be sown every fortnight from this forward, until the middle of August, and although the produce will not be so great as those sown at this time, yet it will afford a variety for the table. Previous to planting these later crops, soak the peas for twenty-four hours, or you may put them in a collender, and pour boiling water over them, which as it runs off immediately, will not injure the germ, but will facilitate their growth. Observe to water them, should the weather prove dry, and allow them as much room again in the drills, as those planted, as above.

Earthing and Sticking the Peas.

Towards the latter end of this month, the early sown peas will be advanced so far in their growth, as to require a little earth, to be drawn to their stems on each side, several times, which will greatly strengthen them, and encourage their growth.

Planting the large Windsor Beans, &c.

As early in this month as possible, plant a full crop of Windsor beans. The Mazagan and Lisbon are the earliest. The dwarf cluster bean is a great bearer, never grows above fourteen inches high, and may be planted in single rows two feet asunder.

The larger kinds are the green Genoa, Windsor, and broad Spanish which last should be planted at four feet, row from row.

Sowing Parsley.

Parsley seed may be sown in drills along the edges of the borders, especially the curled sort; or if a larger supply is wanted, it may be sown in beds, in drills nine inches asunder.

Large Rooted, or Hamburg Parsley.

Sow the seeds of Hamburg, or large rooted parsley: this is cultivated for its large parsnip-like root; let the seeds be sown in an open situation, in shallow drills, and covered with light earth about half an inch; when the plants have grown two or three inches, they must be thinned to about six inches, to give them room.

Sowing and Transplanting Lettuces.

Prepare a warm south border as early in this month as possible, and sow thereon, rather thick, some of the early curled, and some of the common cabbage lettuce, in order to have them fit for cutting, with other small salading, at an early period, and to succeed such as are forwarded in frames; let the ground be dry and light, and the seed covered very slightly.

You may sow, towards the middle of the month, in any compartments of the open ground, the different sorts of lettuce seed, such as the white, green, spotted, and Egyptian cos, grand admiral, white

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O Fortunatos nimium sua si bona norint
Agricolae. . . . VIRG.

VOL. I.

BALTIMORE, FRIDAY, MARCH 17, 1820.

NUM. 51.

AGRICULTURE.

FOR THE AMERICAN FARMER.

A GOOD ROTATION OF CROPS, *Proved by actual experiment.*

March 10, 1822.

MR. SKINNER,

SIR,—Having settled upon a poor and worm out farm, and having derived great advantage, both in the improvement of my land and stock from the following course of crops. I send it you, for the use of such of our fellow citizens as may be disposed to try it.—The farm is to be divided into six fields; the course is as follows:

Fields 1st year. 2nd. 3d. 4th. 5th. 6th.

- No. 1.—corn wheat clover wheat pasture pasture
- 2.—wheat clover wheat pasture pasture corn.
- 3.—clover wheat pasture pasture corn wheat.
- 4.—wheat pasture pasture corn wheat clover.
- 5.—pasture pasture corn wheat clover wheat.
- *6.—pasture corn wheat clover wheat pasture.

The objection I have to the usual six field system is this; the ground by laying two summers in clover, gets very foul, and the wheat is often injured by blue grass, and again upon poor ground the second summer you frequently find more than half the clover roots destroyed, and the ground then, is by no means in so good a state for turning under for wheat, as the face of the first year; (the season you will perceive on which the clover seed is sowed on the wheat, I do not count) Every one in the habit of turning in clover lays knows that the wheat stubble is always well set with young clover, blue and some green grasses, which afford a most excellent pasture, and will enable you to keep double the quantity of stock, that your land would otherwise feed, particularly if you sow on your wheat, half the usual quantity of clover seed: clover alone on our thin lands will not stand the hoof, giving way directly, and when eaten close, much injured by the sun; but when combined in this way with the natural grass, one acre is I think equal to four without it. It also gives you the advantage of a grass lay for your corn, which upon thin land, or indeed any other kind, I think very important, never having been able to make a productive corn crop from a stubble; my practice is to double furrow in the fall and plough out in the spring.

* No person should say any thing against a rotation, that has proved beneficial by an actual experiment: but at the same time we cannot help thinking, that instead of two years for mere pasture, the latter one would be better employed by a crop of buck wheat ploughed into the ground; thus giving the soil not only rest, but a cordial for the ensuing labour.

Ed. Am. Far.

In addition to the six fields above named, I take off four or five lots of from 15 to 20 acres each, as may best suit the size of the farm, one of which I annually till in potatoes, turnips, pumpkins, corn, &c. and which is well covered with manure. This in the fall, I put in wheat in flat beds, (the large fields I prefer in ridges) and sow with it timothy or orchard grass, and clover in the spring. This gives you three or four other lots to mow, and upon which you will make double the quantity of clover seed, that will be consumed upon the farm, as well as a good stock of hay, and you will also be enabled to let the clover in the field intended for wheat, lay and rot during the summer, and turn the whole under during the fall; a mode strongly recommended by that excellent agriculturist, Col. Taylor, of Caroline county Virginia. The land under this course will yearly get better; you will have abundance of both hay and pasture, for upon one of the fields marked as pasture, you may always, the year after the wheat is taken off, cut an excellent crop of hay. The one pasture field, I have found enough for my stock, until the first crop is cut from the other, I then change pasture alternately. The lots I mow in the fall, afford sufficient pasture to fatten several beeves without corn. I prefer sowing the clover seed the beginning or middle of March, as the weather may suit, as I find it less injured by the frost, than the dry heat of summer, and which the early sowing gives it strength to withstand. Turnips I till largely, and find great advantage in feeding them to my cattle and hogs; an account of which, and the mode of cultivation, will perhaps be hereafter given by an

AGRICULTURIST OF DELAWARE.

[The valuable suggestions in the above communication compels the Editor to hope, that the author will find leisure to fulfil the promise intimated in the conclusion of it.] Edit. Am. Far.

FOR THE AMERICAN FARMER.

THE THEORY AND USE OF LIME AND PLASTER OF PARIS.

Continued from page 373.

Elmwood March 12, 1820.

MR. SKINNER,

I now resume the subject of lime, began in your No. 47, Feb. 10th.—You will perceive by inspecting that paper, I have assumed the fact, that limestone is a rich ingredient in any soil when thoroughly incorporated; and that all the preparations of lime, are more or less of the same nature. But I will not assert that it may not be overrated: nor that there are facts wanting to prove that the beneficial quality may not be withheld or destroyed by undue mixture with other articles.—Thus we find that lime which contains much magnesia, may be laid on land to six, and even ten times the quantity of lime usually employed.—It is

quite common in some parts of England to use 300 to 500 bushels of such lime.

How much more readily may we not expect the compounds with acids to be affected? The scales of chemical bodies that decompose each other, exhibit to us various articles that decompose gypsum and among the rest carbonate of magnesia. If then a decomposition takes place in using gypsum, disappointment is the result; for the action of a few bushels of corroded limestone could not be perceived on the crop. Those who mix wood ashes with their plaster, act very injudiciously, and should take notice of what is observed above. The degree, or quantity of carbonic acid in limestone, as found in quarries and in the finer particles mixed in the soil, renders it insoluble without access to solvents. By which provision a kind Providence hath preserved it for successive generations, and particularly for the prudent and industrious farmer and mechanic. If it had been very soluble or liable to great and sudden access of solvents, it might have benefited our ancestors; but their successors would merely have gratified their eyes, by beholding some splendid stalactite columns and incrustations adorning a subterraneous cave. The great mass would ere this have reached the ocean.

The access of agents is nevertheless constant, slow and sure.—The carbonic acid is continually evolving from putrifying vegetables about and beneath the surface of the earth. Pyrites (a combination of sulphur and iron) is continually in a state of decomposition when wet: and must inevitably form gypsum where it is present. The universality of both these ingredients is evident from the universality of hard waters. It is gypsum that has this effect on soap. But independent of these mere chemical solutions, limestone is (like other stones) continually crumbling to atoms by the agency of electricity, light, temperature, water, air, disturbance and mixture. Every one of which are brought into action by the exposure of good farming. These are the modes intimated in my former paper by which limestone is dissolved.

If the ignorance or the avarice of the farmer cause him to draw on the soil faster than those solutions and decompositions take place; the same disgrace must ensue, as when he draws on his banker before his interest is due: a protest, a non est.—It would appear that bad usage will cause even the soil to revolt, and a separation of the various constituents may be effected.—A separation, natural or artificial is an unequivocal mark of sterility. Thus to find a bed of clay here, a flat of sand there, rocks and stones sticking out in various quarters, the calices of iron forming ores and ferruginous stones.—The more precious salines and the remnant of mould washed off and taking post in some obscure swampy corner, beyond the destroying plough! is to find destruction in full march, and only wants a little time to exhibit poverty realized and tangible.—and when assisted, or brought about by the bad conduct of its owner, we may surely give him all the credit of adding his mite to the curse originally entailed on the earth.

This pitiable state of things calls aloud in the ear of reason to bring back these deserters—to reduce them, and to unite them once more in the bonds of

* The quantities of magnesia made at the salt factories in New-England, shew us where this articles to be found, and give us another reason for gypsum being often ineffectual on the coast.

agriculture—whilst separated, they feel strongly disposed to form concretions and insoluble masses. It would seem that the earth, which is never idle, is intent upon one of two operations—either mineralizing or vegetating. To the former state, exclusion from varying temperature, from light, from air, and from water sometimes, at other times excess of water contribute; and especially a separation of the natural soil and rest. To the latter a general commixture of all the constituents and especially water and constant disturbance contribute; by which means the peculiar elective choice, and intrinsic attraction of the ingredients are interrupted*. The solvent powers of each, act as fluxes†, and the whole soil becomes obedient to the gentle attractions of the plant. This coarse mineralizing act of the earth, is to be distinguished from another in which the plant is concerned.

Thus at the death of the plant, a new state of things ensue. The attractions which distinguish life having ceased, the body of the dead vegetable is delivered over to chemistry: fermentation, decomposition or rot ensue—or if this process is artificially hurried by fire, it is nearly the same. The plant lays down all that it obtained from the earth, as well as all that it has elaborated out of it.—The more precious salines are thus collected of formed, viz: alkali, nitre, ammoniacal salts, as also carbon. Thus vegetation seems to stand between two processes.—To interrupt the first, and promote the second, are equally the objects of the true farmer. For these once organized bodies and salines are truly the salt of the earth in agriculture.

Those who hunt for a distinct pabulum to promote the growth of vegetation, are the alchemists of agriculture—no one article is entrusted with such treasure. Let them say lo! it descends from the clouds, or lo! it is in the earth—believe them not.—It is the result of all combined. Not only earth and every saline, but every stone and every metallic calx, and all else that is solid below, with all that is fluid above; not only water, but air and light, with caloric and electric effluvia; to which I may add the gravitation of all that is ponderable, and the attractions of all that is imponderable, all conspire in the formation of the great family of vegetation‡. Although it would be in vain for any man to assign each of these elementary bodies a place in the vegetable economy, yet it is evident that there exists a great disproportion of wants in the various articles that compose the genera, species and varieties of vegetation. Thus we find that some few articles will grow in mere sand—more in sand and clay united—still more in sand, clay and lime, with unceasing perfection, &c.

To particularize, some appear to require more silicious earth, as the Bamboo, which gives fire with steel, some more argillaceous earth, as the forest trees, which are said to reproduce clay, when they have been suffered to fall and rot; some more lime, as the *cara tomentosa*, which will yield 50 pr. ct. weight of that article, some more salines as corn, buckwheat, and artamesia, the former of which is said to yield the most potash per pound (from the stalk) of any other vegetable in America, and although they may form these salts, their necessities for them is rather

* The strong attractions of lime and sand, are greatly interrupted by loam, as every mechanic in brick or stone, can testify, which will explain what is meant, to the most illiterate.

† See Mr. Henry on the increased solubility of silicious and argillaceous earths combined; or their action on each other.

‡ I am persuaded from a consideration of the great analogy of the vegetable family to the animal, (without giving way to Dr. Percival's scheme of animated vegetation) that we have overleaped the boundaries of true physiology, in favour of chemistry by assigning the gaseous elements, places in vegetable nourishment. We cannot make such application yet awhile to animals! It is enough that we imitate with the gaseous oxide of azote, inebriating drinks.

proved, than refuted.—Some more water as the order of aquatics, some, more air and light, as the plants which refuse to grow under larger plants, some, more electricity, as the flax, which will grow an inch in a few hours, by the artificial application of electricity, some, more atmospheric gravitation as the lighter plants, that almost float in the air, and some, more heat, as the large mass of tropical plants.

Whilst on the other hand, some will nearly dispense with air, as mould, subterranean and submarine plants; some with earth and water as the cactus family, and some of the epidendrums; one of which the *E. Flos aris* will grow for years, and flower when hung to a nail in the ceiling; whilst another species of parastic epidendrum mentioned by Dampier, under the name of *barren pine*, has natural buckets or reservoirs for water sufficient to supply the thirsty traveller of the tropics. Some plants will dispense with both light and air as the tuber, (truffles) so greedily sought after by hogs and epicures, that what one roots up, the other stands by to root away. Some require little, or no assistance from gravitation, heat and light in sustaining their posture, as the various procumbent plants, which form (in this particular) a striking contrast with the necessities of corn; as may be proved by the inspection of a field, on a fine day succeeding a prostrating storm; and finally, some would appear willing to dispense with the electric fluid, as the mimosa.

"Weak with nice sense the chaste mimosa stands,
From each rude touch withdraws her tender hands;
Oft as light clouds o'erspread the summer glade,
Alarm'd she trembles at the moving shade;
And feels alive through all her tender form,
The whisper'd murmurs of the gathering storm."

DARWIN.

I have been thus minute, in order to lay bare the philosophy of the rotation of crops, on these *disproportions it rests*, and blind is the man who cannot perceive it; more imprudent he that refuses to attend to it.—When it is once arranged to perfection, it will be perceived that the present generation have been but babes in the noble science of agriculture.

In the statement I have exhibited of lime and plaster, I have attempted to withdraw the theory of the nourishment of the plant from the laboratory, where it has lost its analogy to the animal economy, and only withered among gases; to the more rational one of physiology, giving them as it were a solid dish to feed on, and air only to breathe on; and I trust I have propped my theoretical kiln with strong though coarse stakes, and submit it to the fiery ordeal of the public eye—which like so many rays converging to a small focus, will soon inflame the mass. Methinks I hear already the critics voice as so many oystershells cracking and flying from the kiln. "The wood, the hay, the stubble," will be consumed of course; but I trust there will be left a good heap of incombustible matter to enrich the uncultivated minds of some of our fellow farmers, and which uncultivated state, has unfortunately, too often its type, in the arable field.

Having now, as I suppose, tired those who despise all that is theoretical; I hasten to produce the compost alluded to in the first part of this paper, published on the 10th of February. It is the small broken refuse, that remains after removing heaps of roasted oystershells, as thrown out by families, or oyster-houses. I am rather an enemy to composts; but nevertheless, when they have been found by experience to be efficacious and not projected by a mere blind theory; they should be attended to, and like the old compound medical prescriptions simplified until the active parts are ascertained, and the useless trumpery thrown out. This accidental compost I find produces grass quickly on the poorest soil, and by a fair comparison with ashes, and with stable manure, I have found it quicker than the former, and equal to the latter, if not superiour, as a top dressing; how long it will be so, remains to be ascertained.

It cannot take any great powers of penetration to

find out the ingredients of this compound, and this is absolutely necessary if we mean to use it; for it must be imitated to procure a sufficiency.

On inspection, the first article that we observe, is a portion of litter and lime from the thin lamina of the oystershell, which about the mouth (as we term it) is so delicately thin and flexible in young oysters, as to appear partly membranous. I suspect, besides lime, there may be some animal matter in this part of the oyster; I leave that to chemists to determine. I shall call this first portion *lime*, which together with a little that flies off from the pearly bottom of the shells, is at any rate all the lime that is formed by the culinary fire.

The second article, and very conspicuous, is the roasted mud, that adheres more or less to all oysters, and forms a large portion in the mass of this compound.

The third article is the sea salt, with which both the mud and the shells are highly seasoned. All our oysters are from salt rivers.

The fourth article, is the ashes of the wood used in roasting, and from the very minute greasy adhesions to the shells when taken from the river; this last source is scarcely worth noticing, but there may be a little barilla in it.

The fifth and last article that I know, is the animal matter, produced in part from the heart usually left in the shell, and the long polypus sponge like adhesions to many oysters though not to all, and perhaps the thin lamina of the oyster.—These five articles I think form the whole compost. It may be coarsely imitated by 10 bushels of shell lime*—80 bushels of burned earth from low ground, or from the river, if possible—5 bushels of ashes—2 bushels of salt, and 3 bushels of animal matter, in all 100; which will make a good, and not a very dear top dressing for an acre. It may be much improved no doubt by actual experiment. Four of the articles, I need not say more, where they are to be had—the 5th may be supplied nearly as easy from spoiled, or fresh fish, curriers' shavings or from ordure. This last when mixed with ashes for 60 days, will loose its flavour entirely.† The lime will consume the fish, or cuttings, if they are employed. The salt should be dissolved and mixed with the ashes, which will form barilla, and the rest secundum artem.

* The broken piece of shells not burned are not worth notice.

† Perhaps this is the Chinese cake.

TO THE EDITOR OF THE AMERICAN FARMER—

On Ruta Baga, Mangel Wurtzel, &c.

In your number 45, I read with pleasure the communication under the signature of RUTA BAGA. The perseverance of the writer in the cultivation of that plant, amidst some discouragements and several disappointments in an untoward season, and his real though but partial success, are gratifying. A gentleman of my acquaintance in Massachusetts, agrees, I am informed, with him, in stating that the roots of the Ruta Baga given to his milch cows, produced yellow butter, and did not injure its flavour. I had expressed my fears, as to flavour, of a different effect; having never tried the root in feeding milch cows. And now, notwithstanding the above two statements, my apprehensions are not wholly removed.

Within a few days past, turning over some notes I had made when reading Sir John Sinclair's account of the improved Scottish Husbandry, I found the following, which had whol-

ly helped my memory, when I wrote you on the 4th of January. "The Swedish Turnip gives the butter a superior colour, and less taste of the vegetable." That is, less than other turnips, of which he has treated a page or two before. But it was added, that one ounce of saltpetre put into a gallon of cream, rendered the butter perfectly sweet.—Vol. II. p. 284.

From page 279, I had made the following notes: the Swedish Turnip superior to any other, a more nourishing food, and retaining their juices in the spring, and better enduring frost. But they are so hard as to be very pernicious to the teeth of stock, particularly the very young when shedding their teeth, or the very old; and yet (says Mr. Rennie,) "without them there is no safety nor security either for feeding, [fattening,] or breeding stock."—"They require rich land, or a great deal of manure."—p. 284. One farmer observes, "that where the soil is thin and dry, it is impossible to raise a good crop of Swedes, under any management."

To understand what is here said of the bad effect, on the teeth of stock that are very young or very old; and yet that there is no safety to the farmer without them; it must be recollected, that turnips are generally given *whole* to the stock, and that it will require a considerable effort of the teeth to enter the large and hard roots of Ruta Baga. But the *security* they afford to the farmer, arises from their superior *hardiness* to endure *frost* (compared with the common turnip) when left all winter in the ground, as is usual in Great Britain.—If I rightly remember, Mr. Corbett speaks of giving the Swedish Turnips *a chop or two* to fit them for stock; but unless cut into pieces as small as, or smaller than common potatoes, even oxen find some embarrassment in crushing them. The English turnip-slicer, or some equivalent instrument, I apprehend will be found necessary to prepare them properly and expeditiously for all kinds of stock.

After all the eulogies bestowed on the Ruta Baga, (and I think it entitled to great praise) I am inclined to think the Mangel Wurtzel is the more valuable root. It is as easy to be cultivated, only longer in growing—not annoyed, that I have observed, by any insect—more easily harvested—more tender in its texture, and more readily chopped into pieces in equal quantities much more nutritive—and according to the accounts of its cultivation on *strong lands* in England, vastly more productive, yielding, as a common crop forty-eight tons per acre: while the crops of Ruta Baga seldom surpass, and generally fall short of twenty five tons per acre.—But to insure large crops, under the best culture, *genuine seed*, of both roots, is essential. More than one or two experiments may be necessary to decide which of the two is entitled to preference, as to the *main crops*; while every improving farmer will doubtless find his interest in cultivating both.

T. PICKERING.

Wenham, March 2, 1820.

March 3. I have this morning opened the volumes of the Memoirs of the Philadelphia Society for promoting Agriculture, to examine, more particularly, the communications concerning the Mangel Wurtzel; and this perusal has left no room for me to hesitate in giving it a decided preference to the Ruta Baga, for the farmer's principal root-crop; provided it can be preserved for spring as well as autumn and winter feeding: and with a little care, I am disposed to think it may be so preserved; especially in the milder climates of the middle states, to which it appears to me to be peculiarly adapted.

You have occasionally introduced into the American Farmer, some entire articles from those Memoirs. I believe you could present to your readers nothing more valuable, concerning roots, than a digest, which you can make, of the information those Memoirs contain on the subject of the Mangel Wurtzel: exhibiting merely the manner of preparing the ground by a ploughing and manuring—the sowing of the seed—the culture of the plants—their products in leaves and roots—and their application for all sorts of live-stock. All the papers on this subject, appear to be in the third and fourth volumes.—I here transcribe one passage, because it bears on the question discussed in the former part of this letter. You will find it in the fourth volume, page 152, in a communication from Ireland. "The leaves [of the Mangel Wurtzel] produce two or more crops in the seasons of summer and autumn; and both leaves and roots are most valuable for feeding milch cattle; and unlike *Turnips* or the (cabbage) species, *communicate no bad taste to the milk, but much improve it by a most delicious flavour.*"

The British farmers have reason for giving the preference to the Swedish turnips for a principal crop; because they can leave them all winter in the field, taking them up for their stock as wanted: whereas the Mangel Wurtzel must be harvested in autumn, and in some way sheltered against the frosts of winter.

T. P.

FOR THE AMERICAN FARMER.

ON HEDGING—No. 6.

Continued from page 350.

BY CALEB KIRK, OF DELAWARE.

It might be further noted, that the seventh year after planting is more properly the limit of cost in forming a hedge; what is done after that period is nothing more than *trimming*, which amounts to one cent and a quarter per rod annually, and that is to be perpetual if a neat, handsome hedge is looked for. But if neatness is dispensed with, and carelessness preferred, the consequence will be a natural growth of thorn and every other production, that will according to soil and climate associate with it, producing a rugged and forbidding appearance, and affording shelter for many pestiferous plants, such as every husbandman ought to guard against.

According to my estimate, *seventy-five cents* is the labour necessary to be *annually* bestowed on every sixty perches, that is one day's work including board

farmer can make his calculation, according to labour on his own farm, by days work.

If the proper care is taken of the subject *time*, and *annually*, I am of the opinion that *fifty cents* might safely be a fair estimate, for the *annual* expense of sixty perches, as the work lessens by frequent clipping and pruning extraneous matter, so as to leave nothing but what is necessary. The preparation of posts and rails, that I frequently see making by the farmers in the course of the winter, as I pass through the country, and the setting them up in the spring, leads me to believe there is *much* more labour in doing all this than hedging, besides the destruction of a quantity of their best timber, which ought to be taken into the account of wooden fences, and that renewable often, according to the quality of the kind made use of. The appearance must be regulated by the fancy of the owner.

We are often governed by our prejudices of custom, setting utility aside. The introduction of live fences, might be a means of avoiding many a controversy amongst neighbours, about keeping up their line or division boundaries, and harmony produced in the stead of discord, as well as a cure for breachy cattle, and other live stock.

They are not disturbed by a gale of wind, that often prostrates the rail fencing, an instance of that kind occurred last year, by an extraordinary gale, that threw down thousands of pannels in my neighbourhood, a portion of which fell to my lot; it came on in the night; next morning the scene that presented was truly awful; *buildings*, as well as fences, were prostrated in every direction. But when I turned my view upon the hedges, not a trace of violence was to be discovered there.

Most parts of the country, and especially near towns and villages, there are straggling individuals crossing farms for various purposes, and particularly in seasons of fruit. Good hedges are a guard against depredations of this kind, and if bold enough to pass by gate ways, they are more readily brought to account by the owner.

Many advantages attend the use of hedges, that will not be enumerated. But one more I shall remark, that is the *ornamental* part. A farm neatly hedged, has a pleasing appearance at any time of the year, but when in full leaf, the lively green bordering to every field adds beauty to the crop it incloses, gives confidence to the owner, that neither his own cattle, nor his neighbours can deprive him of the benefit of his labour, whether the crop be grain or grass.

I shall now put one query to those who object to hedging on account of being tedious, or too long coming to maturity, and there are many who object on this ground: they look at the enjoyment as too distant, but if such objections were to predominate in farming, no improvement would be made of a permanent nature.

What proportion or percentage in value, should be annexed to a farm well hedged with living fencing, compared with one that was inclosed by perishable materials?—Would not the advance in value far exceed the *expense* that gave it that preference; less timber is sufficient on a farm, *building* and *fuel* are the principal use after the demand for fencing ceases, for those two purposes we have no substitute, but for fencing we may have not only a substitute, but a considerable saving in expense and durability.

A great mistake is made by some that have made an attempt at live fence, by planting rows of ornamental *trees* along the side of their intended live fence, especially on public roads, who might on the least reflection, see the impracticability of making a hedge grow or flourish under any kind of large growth tree that must shade, and overpower the humble growth of thorn, even if *congenial* in their natures; but as some kinds are deleterious or hostile in their effects, they ought to be avoided. The *Walnut* and the *Cedar* particularly; the former was proved in a case of my own, as not in a former

number; the latter has been amply demonstrated in several instances, but one deserves notice.

My worthy neighbour Wm. Armor, who has done much at propagating the native thorn of Delaware—upwards of twenty years past, planted a hedge upon the side of an avenue, leading from the old public road to his dwelling or mansion house, which had been previously planted by his ancestors with evergreen cedars, and had grown to considerable size, before the thorns were planted; these he set about ten yards distant from the cedars, believing them at that distance safe from any influence of the row of trees, and his calculation might have been correct as it regarded some kinds of timber—but not with the cedar. It must be upwards of twenty years since the thorns were planted, they grew, but very slow. I frequently observed their unhealthy appearance, some years before I knew the cause—on inquiry, he informed me, it was the influence of the cedars—my ardent desire for the welfare of hedges, caused me to propose the cutting down the cedars, but found his veneration for the labours of his ancestry, in that ornamental work, outweighed all considerations concerning the hedge in that place, and it remains a monument of the antipathy that subsists between the cedar and thorn; the latter has the appearance of age and decline—or rather that of being neither alive nor dead, this is the nearest idea of its situation, that I could give you, as a proof of the uncongeniality of their constitutional natures. This subject is worth further pursuit by some abler hand; the antipathy and sympathy of the vegetable kingdoms, affords ample room for inquiry and discussion,—this inquiry might lead to the establishment of facts very useful in the course of husbandry, as connected with the rotation or manner of varying our crops, on the same soil, the reasons for which, in general we are ignorant of, for although we assume to know much on that, as well as many other points—experience daily furnishes evidence of our want of knowledge on agricultural points, that we suppose we are well acquainted with.

Having in the foregoing remarks on hedging endeavoured to cast what light my attention and experience on that subject enabled me to do—my views were to give the enquiring husbandman all the aid in my power, to secure the product of his toils from waste, a consequence often attending bad enclosures, and more especially so, when amongst his live stock, there are depredatory dispositions; one animal of that inclination by success in making breaches, will very soon draw others in the same practice.

I have observed a working ox of my own, after being turned out with other cattle that were harmless, and gave no trouble to manage without him, as soon as he left company to search for plunder, there were certain others that would immediately follow after, knowing his ability to make way for them, to share in his plunder, one of his followers or pupils (if I may use the phrase) was the favorite heifer that was bred from an excellent race for milk, and being estimated valuable, has obliged me to turn off the ox in the prime of his labour, rather than perpetuate that disposition amongst the other part of the stock, and to have the infection to take place amongst the best of milk cows when young, would be mortifying indeed.

I therefore gave up the ox, and with him the trouble was at an end; it ought to be noticed, that those depredations were made through wooden fences, and such was his dexterity and strength, that nothing short of a good post and rail, and that new or otherwise uncommonly strong would turn him, to remove a worm fence (as they are termed) was seemingly only sport for him, if the booty on the other side was promising. I have frequently viewed him at the work, and the expectants waiting with anxiety for his success—whilst concealed from his sight, the work would go on, but if I appeared in his view, all operations ceased, he would give over the attempt, and leave the place until a more convenient time, but

when danger of detection was over would resume and effect his purpose.

I was never more mortified with his ingenuity than on the morning of our beginning to cut the last wheat harvest a lot of excellent grain stood, the evening previous, half bent under the promising product, had not been in any way molested by any depredatory foot, until he that night opened thoroughfare for all the other cattle to follow him into the feast of luxury—next morning it presented a scene that sealed his destiny.

Although he was ungovernable by wooden fences, I never knew his attempting a thorn hedge of any kind; where he was enclosed with hedges, he was as harmless as any other of the stock, and being an excellent working bullock, induced me to pass by many instances of depredation, until his attack upon the harvest field.—I am now clearly and decidedly settled in my choice of fencing, either with thorn or stone, as a safe and permanent fencing—the stone I shall say further on hereafter. But the thorn if carefully and rightly managed, is certainly worth attention where stone is absent.

I never made any calculation as it regarded the comparative expense between hedging and rail fencing, until it became a necessary item in the foregoing inquiry, preparing it for the view of others; and I confess I was so led astray by the general impression of “expensive” and “tedious” annexed with it, that when I made out the estimate as appeared in the foregoing number, I had doubts on the correctness until I consulted my neighbours, who have been propagating and pursuing the same mode of hedging—their calculations so well agree with mine, that I can vouch for those given to the public, being amply sufficient to cover every item that is requisite in forming a hedge.

Note to the Editor—I don't know that I have much more to communicate at present on hedging—

As the time of sowing grass seeds is near at hand, I had thought of making some remarks on that head and the cultivation of barley—both of which are much neglected in many parts that would be benefited by attention to them—and some observations on the practice of my valued friend Wm. West, the noted grazier of Delaware County, Pennsylvania, brother to the celebrated B. West, the painter. Maryland would be improved by attention to the above, as it is remarkably deficient in grasses.

Occasional Extracts.

Near Philadelphia, March 8th, 1820.

RESPECTED FRIEND,

The usual course of husbandry in my neighbourhood, is to prepare the sod for corn by fall ploughing, to add from 30 to 40 bushels of lime according to the strength of the land—clear off the corn stalks, plough the next autumn for Oats, and follow with Wheat or Rye—reserving the manure for the last crops before the grass is laid down.—It seems very desirable to drop the crop of Oats, as exhausting to the soil, but considered necessary to cleanse it I shall this year substitute it by Millet,* and if I can get a supply of clay ashes in time, top

*A very intelligent farmer in this neighbourhood assures us that such is the tendency of Millet to harden his land, that he would not permit it to be cultivated, even though he could have done it at another's expense.

Editor American Farmer.

dress it therewith, or even Plaster Paris. This latter article, instead of being used in the spring, it is by some found most useful after the first crop, when the dry weather has set in—and from analogy it appears most rational. It is found useful on all descriptions of vegetables, and if put in with potatoes will produce a wonderful effect.—Many parts of our country no longer yield good crops of clover—and the Cocks' foot or Orchard grass, has become a great favorite, as a durable and productive one—it was long condemned from our ignorance, that the seed will heat in the sheaf if put together in a large body—but if carefully dried, it yields most abundantly of a good quality, and some find half a bushel sown per acre an ample supply. My neighbours have this year sold this seed at \$2—Millet, there is a very limited supply at \$3—Clover Seed, \$9½ to 10, expected to be lower—Herds Grass and Timothy are little used in my immediate neighbourhood.—Our soil is high and naturally poor.

I am very respectfully,

Thy friend,

JEREMIAH WARDEN, JR.

Large Carrots.

York Springs, 4th Dec. 1819.

MR. SKINNER,

SIR,—On taking up our fall carrots a few days since, the size of several of them appeared so extraordinary, that I had the curiosity to measure and weigh a couple of the largest—which were as follows.

That of the greatest size, measured 17½ inches in length, and 10½ inches round the top. At about half its length, this root had apparently come in contact with a small stone, which had caused it to put forth two additional forks. The weight of this carrot was 2 lbs. 15 ounces.

The lesser one, a clear stem of 19½ inches in length, and 10½ in circumference at the top; weighed but 1 lb. 15 ounces.

My gardener who is an old and experienced one, having assured me that he had never seen any thing equal to these, I have made this small sketch which you may possibly think worthy of a place in your collection.

These carrots grew in a light alluvial soil, and are of the pale kind, growing from seed saved three years since by my then gardener Richard McGee. I mention this circumstance as it has been lately suggested, that old carrot seed will produce plants of but a diminutive size.

On Stall Feeding.

MR. SKINNER.

The following extracts from the article “Stall Feeding,” Rees' Cyclopaedia, may be of service in solving the doubts of your Correspondents, Friend and a Subscriber.”

“Stall feeding of bullocks with potatoes, given in different states of preparation, have

been for some time extensively practised in Sussex, and is much approved of by many. They there find that a beast of from one hundred and forty to one hundred and sixty stone weight, eats from one to two bushels of the roots in the course of the day, but consumes of hay, not much more than ten or twelve pounds in that space of time." "And a careful experimenter, who was largely in the practice of fattening oxen with them, it is said, gave them up—from a conviction that, with every advantage of breed, attention, warmth, and cleanliness in regard to the animals, they would not pay more than four pence the bushel."

Further, the Swedish turnip when it is cultivated in a proper manner, is a most valuable root, when used with this intention.—"In some trials which we have lately attended to, it was found to have the advantage, nearly in the proportion of one fourth; and in other experiments, it is said to have gone still farther in this use."

"And the proportion in which they are consumed by the fattening stock, has been found to be something more than a third of the weight of the cattle by some; but by others, about a third in the day, as stated in the Gentleman Farmer. However, in other experiments carefully made, an ox from seventy to eighty stone, has been ascertained to eat something less than three hundred weight in the course of the day, besides chaff and hay; and small cows of about thirty stone, one hundred weight and three quarters in the same time. And in the Rev. Mr. Close's trials it was found, that when consumed in stalls and sheds, an acre of good turnips, will completely winter fat an ox of fifty score;"—

"When this root is given in the stall, from its very succulent nature, it becomes necessary to employ as much dry food as possible during the use of it, in order to the expeditious fattening of the cattle by such means."

CORNHILL.

* Meaning probably 14 pounds to the stone.

To the People of Maryland.

The undersigned having been appointed, at a public meeting held at the Exchange, on the 9th inst. to invite your attention to the necessity and advantages of forming a company for the purpose of collecting and propagating fruits of the best quality, we derive satisfaction from the belief, that the mere announcement of the object, will at once awaken you to a sense of its importance.

That there is, at present, lamentable imperfection in the quality of almost every species of fruit, cultivated in this state; is notorious almost to a proverb; hence, it is not unusual to see such peaches, for example, as every farmer might have, selling in our market, at the rate of four dollars per bushel; and other fruits of the best quality, high, in proportion; while the growers of such, are as well known by their fruit, as the most eminent men in the most difficult departments of science or professional skill.

To remedy an acknowledged evil, it is first necessary to ascertain its cause—what then, let us inquire is the cause of the scarcity, and the imperfection of the various kinds of fruit in this state? Is it to be attributed to any peculiar and uncongenial influence

in our soil and climate? on the contrary, it is apprehended that none of the United States, embraces greater variety of soil, or a climate better adapted to the perfect growth of choice fruits, than Maryland; occupying as it does, the happy medium, exempt alike from the extreme cold of the northern, and the intense heat of the more southern latitudes.

The undersigned are of opinion that the chief barrier to the more extensive planting of good orchards, and the acquisition of a more abundant supply of the best fruits in this state is to be found in the total want of a good nursery, where the farmer may apply with well assured confidence in the certainty of obtaining fruit trees in all the variety, and of the genuine kind such as he may desire to plant.

At present, Nursery-men abroad, whose sole object is gain; under no adequate sense of responsibility, send amongst us for sale, trees of the most inferior sort, taking special care to baptize them with fascinating names. We buy, plant, and cultivate them at great expense, and after some seven or ten years have passed away in vain anticipation of gathering fine fruit, behold, they prove utterly worthless, or at most, fit for swine; and should the deluded purchaser have resolution to renew the attempt, as long as he is compelled to depend on foreign interested traders in the article, he remains exposed to the same cruel deception, and must continue to reap the same bitter fruit.

To guard most effectually, against all imposition, and that the farmer may depend with perfect confidence on his procuring the best fruits and of the identical kind he proposes, it is intended in this case, that the managers shall themselves, and with their own hands, select the various fruits, to be introduced into the nursery.

Adopting these precautions, and having the guarantee of responsible characters, whose only reward will be the consciousness of having contributed to the attainment of the cheapest, most innocent, and healthful luxuries of social life; the purchaser will feel assured, that his labour, his money, and what is still more precious, his time will not be expended in vain. Prompted by this confidence, our state would soon present a more cheerful, thrifty, and honourable aspect, fine orchards of well selected fruit, would greet the eye of the traveller, who now sees, only here and there, a straggling outcast fruit tree, which providence permits to linger as it were, a standing reproach on the character of the land holders of Maryland, proclaiming to every passing stranger their habitual neglect and improvidence.

Taking another view of this subject, the undersigned have the pleasure to believe that in this appeal, some reliance may be placed, on the patriotism of their fellow citizens; who will not fail to reflect, that by establishing a nursery of good and genuine fruits at home we shall retain amongst ourselves the very considerable sums of money, which it is but too certain, are now annually sent away, to reward the industry of the more thrifty and enterprising citizens of other states, thereby swelling the balance of trade, which for many years been constantly against us. It is but natural however, that ignorance and improvidence at home, should pay tribute to industry and enterprise abroad, but we trust the time has come, when Marylanders will no longer wilfully endure this state of ignominious dependence.

To illustrate in some measure the extent of the demand, and the precarious nature of the supply from abroad, we submit a single extract from a letter at hand, just received by one of the undersigned, from Pennsylvania, dated the third inst.

"I have received the order forwarded for Apple trees, but it will not be in my power to supply them; my own nursery and the several nurseries in this part of the country are nearly run out. I went yesterday about 15 miles to a nursery and purchased all that were fit for planting, but they will be far short of the quantity required."

I have received an additional order from a person

about 50 miles on the other side of Baltimore. He is in want of upwards of 2000. Tell the applicants to keep in heart for a short time, as I intend to graft between twenty and thirty thousand this spring; amongst them are several new kinds, some of which are those sent me by my friend Hillan!"

Amongst the certain advantages to be derived to the community at large, from the propagation of the best fruits, the philanthropist will not overlook its moral influence on the character and habits of society; the multiplication of good apples may be expected to encrease the quantity, and to diminish the price of good cider, and that wholesome beverage would in that proportion, supercede the pernicious use of ardent spirits, so much to be deprecated. It may be mentioned as a remarkable fact, not to be disregarded in the contemplation of this subject, that at this time a barrel of whiskey may be got much easier and at a cheaper rate, than one of good cider,* are we then to be surprised at the degrading and beastly vice of drunkenness making such desolating inroads on the welfare, the honour and the reputation of the American family?

Having thus briefly stated what they conceive to be the defects of our present system and habits, and the cause of them, they proceed to submit, respectfully the mere outline of a plan, which, they feel assured, would remedy the evil. Leaving this plan to be modified and perfected hereafter, as experience may suggest, by the stockholders.

Let a joint stock fund be provided to consist of not less than \$7500, in shares of 50 dollars, each; when these shall have been subscribed, let the stockholders be called together, to appoint a President, Secretary, Treasurer, and three Managers, with authority to purchase immediately, a suitable piece of ground, say 15 or 20 acres, in the vicinity of this city.—Having made the purchase, they would proceed to employ a skilful nursery man, and one or more labourers, in short to do all things needful, to carry into immediate operation the views of the company. Neither the managers, nor any of the company to receive any compensation, until the profits of the nursery will afford to pay the Stockholders six per cent. per annum at least.

To the undersigned it is a matter of surprise, that this interesting subject has not hitherto attracted the consideration of their fellow citizens; more especially when they reflect on the extraordinary advantages in the location of Baltimore for an establishment of this kind—seated as she is at the head of a noble bay, whose tributary waters without number, pour into her lap, the products of an immense area of cultivated and populous country, with her numerous turnpikes, penetrating every section of this, and the adjoining states, affording the most easy, secure and cheap modes of transportation.

Were the undersigned in the execution of the duty allotted them, to present this subject in all the lights of which it is susceptible, they would far exceed the limits they have prescribed themselves; they conclude, therefore, by congratulating their fellow citizens on that auspicious spirit of improvement in all the branches of Agriculture which now evidently pervades the United States; and considering the propagation of fine fruits, as essentially connected with this great department of domestic industry, they hope to see the establishment of a nursery encouraged, until it shall have attained that state of perfection and usefulness, that our country and posterity, enjoying its fruits, shall jointly regard it as a monument of the liberality and enterprising spirit of citizens of Maryland.

JOHN HILLEN,
JOSEPH TOWNSEND.
J. S. SKINNER.

March 11th, 1820.

* The Editor of this paper, will gladly give 50 cents per gallon for a few barrels of choice cider.

† To be paid in instalments as wanting.

Kitchen Garden for March.

From the Practical American Farmer, published by Fielding Lucas.

Continued from No. 50, p. 399.

Radishes.

Sow more seed to succeed those sown in last month.

Some of the short top, salmon, and purple kinds should be sown in an open place, at the beginning, middle, or latter end of this month.

Thin the early crops of radishes, where the plants stand too close; pull up the worst, and leave the others two inches apart; clear them from weeds of all kinds, and stir the earth well about them. In dry, open weather, let them be moderately watered, which will forward their growth, and also render them crisp for eating.

A thin sprinkling of radish seed may now be sown among the general crops.

Celery.

Sow a small quantity of celery seed in the beginning of this month, to be transplanted in May. The seed should be sown on mellow earth. For the method of treating it, see April and June.

Beet Seed.

You may now sow some of the different sorts of beet; the deep purple red for its rich root, and the green and white sort for their leaves.

The best plants, of the rich, dark red beet, are raised in the eastern states, and those who wish to have the best seed of this kind, may procure them from Providence, as they frequently degenerate in the middle states, and become white.

After the ground has been manured, and prepared by digging, make drills in the beds one foot asunder, drop the seed therein about one foot apart, and cover them in with about an inch of earth. As many seeds are united together in one globule, several plants will frequently come up together; they may be transplanted, leaving the largest plant in its own place.

Pot and Medicinal Herbs.

The latter end of this month, plant thyme, hyssop, sage, lavender, and winter savory, for the edgings of the borders. The suckers, with small portions of root attached to them, are to be preferred; insert them into the ground, as deep as they will bear, or strip the old roots, spreading out the tops, and planting them deep; observe to water them in dry weather. Or they may be planted in the herbary with the following:

Rue, wormwood, tarragon, tansey, chamomile, common fennel, southernwood, feverfew, common fennel, baum, burnet, spearmint, peppermint, officinal scurvy grass, celandine, hoarhound, catmint, angelica, lovage, gromwell, and any other perennial herbaceous plants may be set out in the herbary, by parting their roots or slips therefrom; the best time for doing this, is just when they begin to advance a little in growth.

Towards the latter end of this month, or

any time in the next, sow seeds of all the above mentioned kinds, and of clary, smallage, and fox-glove; these three last are biennials and do not flower until the second year; sow, also, seeds of the following annual plants, viz. borage, sweet fennel, sweet marjoram, sweet basil, summer savory, fenugreek, pot marigold, anise, and carraway. All these seeds should be sown separately in beds of rich earth, and covered from the eight of an inch, to half an inch deep, in proportion to their size.

Capsicums, Tomatoes, and Egg-plants.

You should now sow some seed of each of these in pots, and forward them for hot bed, so as to have strong plants ready for planting in May, as soon as the night frosts shall have entirely disappeared. See April, May, &c. *Planting out Cabbages, Beets, Turnips, &c. for Seed.*

As soon as the weather is tolerably mild, in this month, plant out cabbages, beets, carrots, parsnips, turnips, &c. which were preserved during the winter, to raise seed from; plant the different kinds at a considerable distance from each other, as the farina, mixing, when they are close together, changes the seed, so that they cannot be depended upon. Tie up the shoots to stakes, provided for that purpose, as they advance for seeding, to prevent them from being broken down by winds, heavy rains, &c.

Horse Radish.

This plant is best cultivated by cutting from the root, and will grow from the smallest slips. When you have a bed of plants, sufficient to make choice of the finest slips, select those which are without many fibres, (which should all be taken off,) these slips should be six or eight inches long, and will do as well without tops as with them.

Being furnished with these sets, and the ground trenched two spades deep, and well manured, stretch your line along the bed, then with a dibble, make holes deep enough to receive the plants, at about nine inches distance from each other, so that the upper part of the plant shall just come to the surface of the ground. When the whole row is planted, fill up the holes with rotten sifted manure; twelve inches from this, begin a second row, and so on until the bed is planted. Keep the bed clean from weeds, and once or twice in the summer, remove the earth from the root about six inches deep, and take off all the fibres, which may be produced, and again cover them with fresh manure; the roots will thus be long, straight, and free from off-sets, and may be taken up the next spring, when many, if not most of them, will be one and a half inches diameter at the crown, and eight or nine inches long; but they will be better to remain for the second year.

Southern States.

This is the principal month in the southern states for gardening; all manner of work hitherto directed, may now be performed in the open ground successfully. In South Carolina, Georgia, &c. they may now sow the seeds of

melons, cucumbers, squashes, tomatoes, egg-plants, okras, capsicums, or red peppers, &c.

Peach Orchard.

Mr. THOMAS COULTER of Bedford County, Pennsylvania, gives the following directions for cultivating Peach Trees, which he has successfully pursued in Pennsylvania and Delaware for 45 years.

"Transplant your trees as young as possible, where you mean them to stand: if in the kernel, so much the better—because in that case, there will be no check of growth, which always injures peach trees. Plant peach trees 16 feet apart, both ways, except you would wish to take your wagon through the orchard to carry the peaches away; in that case give 24 feet distance to every fifth row, one way. After transplanting, you may plough and harrow amongst your peach trees, for two years, paying no regard to wounding or tearing them, so that you do not take them up by the roots. In the month of March or April, in the third year after transplanting, cut them all off by the ground; plough and harrow amongst them as before, taking special care not to wound or tear them in the smallest degree, letting all the sprouts or scions grow that will; cut none away, supposing six or more should come from the old stump; the young scions will grow up to bearing trees on account of the roots being strong. Let no kind of beasts into peach orchards, *hogs excepted*, for fear of wounding the trees; as the least wound will greatly injure the tree, by draining away that substance which is the life thereof; if wounded although the tree may live many years, the produce is not so great, neither is the fruit so good. After the old stock is cut away, the third year after transplanting, the sprouts or scions will grow up, all round the old stump, from four to six in number; no more will come to maturity, than the old stump can support and nourish; the remainder will die before they bear fruit. These may be cut away, taking care not to wound any part of any stock, or the bark. The sprouts growing all round the old stump, when laden with fruit, will bend and rest on the ground in every direction, without injuring any of them, for many years, all of them being rooted in the ground, as though they had been planted. The stocks will remain tough and the bark smooth for twenty years and upwards; if any of the sprouts or trees from the old stump should happen to split off, or die, cut them away, they will be supplied from the ground, by young trees, so that you will have trees from the same stump for hundred years, as I believe. I now have trees 36, 20, 10, 5, and down to one year old, all from the same stump. The young trees coming up after any of the old trees split off, die, and are cut away, will bear fruit the second year; but this fruit will not ripen so easily as the fruit on the old trees from the same stem. Three years after the trees are cut off by the ground, they will

be sufficiently large and bushy to shade the ground, so as to prevent grass of any kind from matting or binding the surface, so as to injure the trees."

TO MAKE FAT LAMB.

"To make or fatten lamb for the market. let your ewes be well attended to, and fed upon a patch of rye; upon turnips or other corresponding food; affording abundant milk: as fast as your lambs fall, and can run well alone, all you have, are to be shut up together in a dark pen or stall, of proportionate size to the number of lambs you expect, having a narrow trough, breast high to them, to be daily supplied with Indian corn meal, with the bran in it; and hanging up within their reach, one or more wisps or small bundles of fine hay for them to nibble at. This stall must communicate with, or adjoin, a larger apartment, into which you are to turn, ewes twice or thrice a day, to suckle their lambs; and to sleep all night with them.—Before turning the ewes out to pasture, each time, the lambs must be lifted into their small dark pen or stall (one six or eight feet square, is sufficiently large for thirty lambs or more.) where they will have no room to skip or play their fat away; here they will nibble so much of the fine hay, and eat so much of the dry Indian corn meal, from want of other employment, as to render themselves voraciously thirsty against the next meal of milk from their dams; which, with the other causes mentioned, makes them grow surprizingly large and fat in a short time. Lambs thus educated, will often promiscuously suck the ewes, without knowing or being attached to their own dams.—Hence a very great advantage: for when all grow large and strong, they become capable of consuming more milk than a single ewe can afford; and more especially those ewes which have two or more lambs each. For upon killing off all the lambs of an ewe, that ewe continues to give suck to the other lambs promiscuously as before, to the great advantage of the surviving lambs, now requiring additional nourishment. This is not the case when lambs run out at large with their dams."

Sheep, &c.	---	40,860,000	34,189,000
Value of exports,	---	1,000,000,000	370,000,000
Cotton imported,	---		
raw & wrought	---	25,000,000	10,500,000
Public debt,	---	20,000,000,000	3,050,000,000
Interest thereon,	---	1,000,000,000	232,000,000
Revenue,	---	1,500,000,000	889,210,000
Proportion of individuals,	---	1,800,000,000	827,790,000

Victuallers' Procession.

The procession of the victuallers, which took place in this city yesterday, was extremely gratifying, and reflected great credit on their taste and exertion. The fine display of meat occupied upwards of sixty carts, which followed each other, and formed a very long train. About forty-four of these carried each a side of beef; the remainder carried sheep, goats and pork. The drivers in the carts were neatly dressed in their white frocks, their hats being ornamented with variegated ribbons.—The horses were neatly harnessed, and by most of them small portraits Washington & Franklin were borne on their heads, which were tastily connected with the tops of the bridles. Each cart had a white flag, on which PENNSYLVANIA appeared in large characters; and those with the goats had skin of morocco, which we understand was tanned in 24 hours after it was taken from the backs of the animals. The mounted men added very much to the elegance of the procession; they were also dressed in their white frocks. Each rode a white horse; and we do not hesitate to say that such a collection of fine horses was never before exhibited in this city. A band of music preceded the carts; a neat boat about 50 feet long, mounted on wheels, and containing music and persons in the character of sailors, succeeded them. In this boat a sailor was occupied in *heaving the lead*.—On the stern was written "CLAPIER," in honour of the meritorious and public spirited gentleman who raised EIGHTEEN of the baeves exhibited. In the rear were several mounted men. The whole procession exhibited a splendid appearance, and proceeded through the streets with great order and decorum.

[Philadelphia Franklin Gazette.]

GREAT BRITAIN AND FRANCE.

FROM THE GAZETTE DE FRANCE.

The following important table of the state of Great Britain and France, in the year 1819, furnishes materials for much reflection:

	G. Britain & Ireland.	France.
Surface, <i>hectares</i> ,	21,114,000	50,000,000
Population, <i>individuals</i> ,	12,600,000	29,827,000
Agricultural capital, <i>frances</i> ,	61,000,000,000	57,522,000,000
Gross product of agriculture,	2,875,000,000	4,679,000,000
Gross product of manufactures	2,250,000,000	1,404,000,000
Horses, mules, &c.	1,818,000	1,657,500
Oxen, &c.	7,200,000	4,682,000

THE FARMER.

BALTIMORE, FRIDAY, MARCH 17. 1820.

Many articles are on file, which we shall endeavour to compress into the next and last number. Those who expect to get their Index, must first have paid their subscription; we can compel no one to take the paper, but we have a right to expect that those who have in a few instances been suffered to get it, without having first paid in advance, will now pay for it.

We see no immediate occasion for continuing our remarks on the cultivation of Tobacco,

for the present; because we have already given ample details as to the *first steps*; preparation of beds, planting, &c. &c. We have something to add as to packing, prizing, &c. it is intended to give a drawing of a prize, invented by the late Frederick Skinner of Calvert County—the Editor's Father.

The News! The News!

The last arrival brings news of the long looked for death of King GEORGE III. of England—no reign was ever more eventful than his—was there ever one under which more extensive aggressions were committed against the natural rights of man—more wars undertaken against the principles of human freedom?—Have not these aggressions been committed—these wars been fomented—and rivers of human blood shed at the instigation of British councils?—by means of British intrigue—British gold—British power and thirst for monopoly? Let impartial history answer these questions. No immediate consequences of a particular nature are to be expected from the demise of this great personage. His successor has been managing the farm for many years past, while the old gentleman was sick; and has now appointed the same overseers, and they work the farm on the old plan and with the same horses and implements—so that we may regard it as a succession without a change. Nor so in SPAIN.—The revolution had progressed exactly to that point which serves to let us see that the play will soon open, but leaves us in ignorance of the plot of the drama. The Theatre is illuminated—the audience attends—the music plays—the next arrival will lift the curtain, and let us see what is going on—to drop all metaphor: The constitutional army as it is denominated, 74000 strong, have taken Cadiz, or Cadiz seems rather to have taken it, so cordially was it received—from the nature of the place, they can hold it against any force the king can muster—but it is supposed they will muster him—and require him to sign the constitution of the Cortez, recognizing the principle, that men are really human beings—capable of feeling, and entitled to some share in government, instead of being reckoned and treated, as so many two legged sheep. But will the neighbouring legitimate powers of Europe quietly permit even this assertion of right by the people. This extortion by his subjects, at the point of their bayonets from a legitimate monarch? and again—may not any attempt to interfere—disturb all the relations of powers as they now stand on the political chequer-board of Europe? Let politicians decide, one consequence we will prophecy, and if it does not come true, like other wise prophets, we will say nothing about that prediction. The commotion in Spain, will completely dislodge all South America from her government and influence; and the nation that first acknowledges its independence, will stand first in its assertions as long as time endures; some sup-

pose that our government will seize the golden opportunity, to be before-hand with England, to send able and *virtuous republicans*, to mediate differences among their chiefs, and encourage free principles. Then might, then, *ought* all America to stand "ready" against all Europe, giving no offence, but having it well understood—"nemo me impune lacessit." Some cynical politicians, suppose that Ferdinand has been instigated by England to reject the treaty, calculating on our reprisal of Florida, as a pretext for her taking a larger and richer slice elsewhere; but they forget that two English ministers have pledged their "honours" to the contrary, and it is well known that English ministers are all, all honourable men.

However, these are great matters of state, and we must take care not to get out of our depth.

"Vessels large may venture more,

"But little boats should keep near shore."

There is nevertheless one political prayer to which every farmer will say, amen.—May *something* happen to lower the price of all we have to buy, and raise that of all we have to sell!!!

LIVE STOCK.

We were highly gratified to see the number of people attracted to view the fine *Cattle*, *Sheep*, and the *large Hogs*, fed and brought to this market by Mr. John Barney, of Delaware. They were exhibited to, and greatly admired by a large concourse of people in Washington Square, on Wednesday last. We understand they will be slaughtered and offered for sale; the cattle by Messrs Rusks, and the sheep by Mr. GEORGE ELLIOTT, in the course of next week.—Every citizen is interested in giving his mite of encouragement to those breeders of fine stock; who thus give the preference to our market.—In a subsequent number, we shall endeavour to give a more minute account of these extraordinary animals.

POETRY.

Indian Student,

Or the Force of Nature.

From Susquehanna's utmost springs,
Where savage tribes pursue their game,
His blanket tied with yellow strings,
A shepherd of the forest came.

From long debate the council rose,
And viewing SHALUM's tricks with joy,
To HARVARD* Hall, o'er wastes of snows,
They sent the tawny coloured boy.

Awile he writ, awile he read,
Awile he learn'd the grammar rules;
An Indian savage, so well bred,
Great credit promis'd to the schools.

Some thought he would in law excel,
Some said in physic he would shine;

And one that knew him passing well,
Beheld in him a sound divine.

But those of more discerning eye,
E'en then could other prospects shew,
And saw him lay his Virgil by,
To wander with his dearer bow.

The tedious hours of study spent,
The heavy moulded lecture done,
He to the woods a hunting went,
But sigh'd to see the setting sun!

The shady bank, the purling stream,
The woody wild, his heart possess'd—
The dewy lawn his morning dream
In fancy's finest colours drest:

"And why, (he cried) did I forsake
My native woods, for gloomy walls;
The silver stream, the limpid lake,
For musty books and college halls!

"A little could my wants supply—
Can wealth and honour give me more?
Or, will the sylvan god deny
The humble treat he gave before?

"Where nature's ancient forests grow,
And mingled laurel never fades,
My heart is fixed, and I must go
To die among my native shades."

He spoke, and to the western springs,
(His gown discharg'd, his money spent,)
His blanket tied with yellow strings,
The shepherd of the forest went.

Returning to the rural train,
The Indians welcom'd him with joy—
The council took him home again,
And blest the tawny colour'd boy.

* Harvard College, at Cambridge, Massachusetts.

Agriculture and Economics.

On the Comparative Quantity of Nutritious Matter which may be obtained from an Acre of Land when cultivated with Potatoes or Wheat, by Dr. Eli Ives, Professor of Materia Medica, and Botany in Yale College.

In a good season an acre of suitable land well cultivated will produce 400 bushels of potatoes. In Woodbridge, a town adjoining New-Haven, a crop of 600 bushels of potatoes has been obtained from a single acre. A bushel of potatoes weighs 56 pounds. Multiply 400, the number of bushels, by 56, the weight of a single bushel, gives 2240, the number of pounds of potatoes produced upon one acre.

Thirty bushels of wheat are considered a good crop as the product of one acre of land. About five sixths of wheat may be considered as nutritious matter.

According to the experiments of Dr. Pearson and Einhoff, about one third of the potato is nutritious matter. From the analysis of Einhoff, 7680 parts of potatoes afforded 1153 parts of starch; fibrous matter analogous to starch 540 parts; mucilage 312 parts. The sum of these products amount to about one third of the potatoes subject to the experiment.

Sir Humphrey Davy observes, that one fourth of the weight of potatoes at least may be considered nutritious matter.

One fourth of 22400, the product of an acre of ground, cultivated with potatoes, is 5600. The whole weight of a crop of wheat calculated at 30 bushels to the acre, and at 60 pounds to the bushel, gives 1800. Deducting one sixth from the wheat as a matter not nutritious, and the weight is reduced to 1500.

The nutritious matter of the crop of potatoes, to that of wheat is as 5600 to 1500, or as 56 to 15.

The starch might be obtained by a very simple machine, recommended by Parmentier; and in seasons when potatoes are abundant, the potatoes might be converted to starch, and the starch be preserved for a length of time, and used as a substitute for wheat flour.

The machine alluded to is a cylinder of wood about three feet long and six inches in diameter, covered with sheet tin, punched outward so as to form a coarse grater, and turned by a crank. This cylinder is placed in a box of boards whose sides slope a little inward upon the principle of a hopper, and a tub of water is placed beneath. The potatoes are thrown into this box, and as the crank is turned they are crushed, and the starch or fecula subsides to the bottom of the water. It is well known, that potatoes are largely used in England mixed with flour to form a very good bread; the starch of the potato would of course answer much better.

TO DRY PEACHES.

The following mode of drying Peaches is adopted by Thomas Belanfee, of Egg-Harbour, New-Jersey.

He has a small house with a stove in it, and drawers, in the sides of the house, lathed at their bottom. Each drawer will hold nearly half a bushel of peaches, which should be ripe, and not peeled, but cut in two and laid on the laths with their skins downwards so as to save the juice. On shoving the drawer in they are soon dried by the hot air of the stove and laid up. Peaches thus dried are clear from fly-dirt, excellently flavoured, and command a high price in market. Pears thus dried eat like raisins. With a paring machine, which may be had for a dollar or two, apples or pears may be pared, and a sufficient quantity dried, to keep a family in pies, and apple bread and milk, till apples come again. With a paring machine, one person can pare for five or six cutters.

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FOR JOHN S. SKINNER, EDITOR.

At the corner of Market and Belvidere streets

BALTIMORE.

American Farmer.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . Virg.

VOL. I.

BALTIMORE, FRIDAY, MARCH 24, 1820.

NUM. 52.

AGRICULTURE.

From the Columbian Telescope and Literary Compiler.

On Wheel Carriages.

We comply with the suggestion of a friend that we should devote a part of our Compiler to essays on experimental philosophy. For this purpose we have selected the following lecture on wheel carriages, by the very justly admired Ferguson. It will be seen that the writer's ideas of carriage power are in opposition to the uniform practice of the past and present generations; and his reasoning is so apparent, that we can only advocate the old method by the plea, *that what always has been, must be right*. We have seen carriages on Mr. F.'s construction (or with four small wheels) used in some of the northern towns for the transportation of articles from street to street—the purpose to which our drays are applied—but we never inquired of their proprietors whether they possessed superior advantages. Mr. Ferguson's reasoning, we should think, can only be met by actual experiment; and if his mode of construction be found the best, the service rendered would add another chaplet to the wreath which already adorns his memory. The lecture is by no means abstruse; but exhibits that plainness which distinguishes all the author's writings; and will be found highly interesting by the majority of our readers.

[Ed Telescope.]

The structure of wheel carriages is generally so well known, that it would be needless to describe them. And, therefore, we shall only point out some inconveniences attending the common method of placing the wheels and loading the wagons.

In coaches, and all other four-wheeled carriages, the fore-wheels are made of a less size than the hind ones, both on account of turning short, and to avoid cutting the braces; otherwise the carriage would go much easier if the fore-wheels were as high as the hind ones, and the higher the better, because they would sink to less depths in little hollowings in the roads, and be the more easily drawn out of them. But carriers and coachmen give another reason for making the fore-wheels much lower than the hind wheels: merely, that when they are so, the hind-wheels help to push on the fore ones: which is too unphilosophical and absurd to deserve a refutation, and yet for their satisfaction we shall show by experiment that it has no existence but in their own imaginations.

It is plain that the small wheels must turn as much oftener round than the great ones, as their circumferences are less. And therefore, when the carriage is loaded equally heavy on both axles, the fore axle must sustain as much more friction, and consequently wear out as much

sooner, than the hind axle, as the fore wheels are less than the hind ones. But the great misfortune is, that all the carriers to a man do obstinately persist, against the clearest reason and demonstration, in putting the heavier part of the load upon the fore axle of the wagon; which not only makes the friction greatest where it ought to be least, but also presses the fore wheels deeper into the ground than the hind wheels, notwithstanding the fore wheels being less than the hind ones, are with so much the greater difficulty drawn out of a hole or over an obstacle, even supposing the weights on their axles were equal. For the difficulty, with equal weights, will be as the depth of the hole or height of the obstacle is to the semidiameter of the wheel. Thus if we suppose the small wheel of a wagon to fall into a hole which is equal to the depth of the semidiameter of the wheel, and the wagon to be drawn horizontally along it is evident that a part of the small wheel will be drawn directly against the top of the hole; and therefore all the power of horses and men will not be able to draw it out, unless the ground gives way before it: whereas, if the hind wheel falls into such a hole, it sinks not near so deep in proportion to its semidiameter; and therefore that part of the large wheel will not be drawn directly, but obliquely, against the top of the hole and so will be easily got out of it. Add to this, that as a small wheel will often sink to the bottom of a hole, in which a great wheel will go but a very little way, the small wheels ought in all reason to be loaded with less weight than the great ones; and then the heavier part of the load would be less jolted upward and downward, and the horses tired so much the less, as their draught raised the load to less height.

It is true, that when the wagon road is much up hill, there may be danger in loading the hind part much heavier than the fore part; for then the weight would overhang the hind axle, especially if the load be high, and endanger tilting up the fore wheels from the ground. In this case, the safest way would be to load it equally heavy on both axles: and then, as much more of the weight would be thrown upon the hind axle than upon the fore one, as the ground rises from a level below the carriage. But as this seldom happens, and when it does, a small temporary weight laid upon the pole between the horses would over-balance the danger, and this weight might be thrown into the wagon when it comes to level ground; it is strange that an advantage so plain and obvious as would arise from loading the hind wheels heaviest, should not be laid hold of, by complying with this method.

To confirm these reasonings by experiment, let a small model of a wagon be made, with its fore wheels 12 inches in diameter, and its hind wheels $4\frac{1}{2}$, the whole model weighing about 20 ounces. Let this little carriage be loaded any how with weights, and have a small cord tied to

each of its ends, equally high from the ground it rests upon; and let it be drawn along a horizontal board, first by a weight in a scale hung to the cord at the fore part; the cord going over a pulley at the end of the board to facilitate the draught, and the weight just sufficient to draw it along. Then turn the carriage, and hang the scale and weight to the hind cord, and it will be found to move along with the same velocity as at first; which shows, that the power required to draw the carriage is the same, whether the great or small wheels are foremost; and therefore the great wheels do not help in the least to push on the small wheels in the road.

Hang the scale to the fore cord, and place the fore wheels (which are the small ones) in two holes, cut three eight parts of an inch deep into the board; then put a weight of 32 ounces into the carriage, over the fore axle, and an equal weight over the hind one; this done, put 44 ounces into the scale, which will be just sufficient to draw out the fore wheels; but if this weight be taken out of the scale, and one of 16 ounces put into its place, if the hind wheels are placed in the holes, the 16 ounce weight will draw them out, which is little more than a third part of what was necessary to draw out the fore wheels. This shows, that the larger the wheels are, the less power will draw the carriage, especially on rough ground.

Put 64 ounces over the axle of the hind wheels, and 32 over the axle of the fore ones, in the carriage; and place the fore wheels in the holes; then put 38 ounces into the scale, which will just draw out the fore wheels; and when the hind ones come to the hole, they will find but little resistance, because they sink but a little way into it.

But shift the weights in the carriage, by putting the 32 ounces upon the hind axle, and the 64 ounces upon the fore one; and place the fore wheels in the holes: then, if 76 ounces be put into the scale, it will be found no more than sufficient to draw out these wheels; which is double the power required to draw them out, when the lighter part of the load was put upon them; which is a plain demonstration of the absurdity of putting the heaviest part of the load in the fore part of the wagon.

Every one knows what an outcry was made by the generality, if not the whole body, of the carriers, against the broad wheel act; and how hard it was to persuade them to comply with it, even though the government allowed them to draw with more horses, and carry greater loads than usual. Their principal objection was, that as a broad wheel must touch the ground in a great many more points than a narrow wheel, the friction must of course be just so much the greater; and consequently, there must be so many more horses than usual, to draw the wagon. I believe that the majority of people were of the same opinion, not considering, that if the whole weight

of the wagon and load in it bears upon a great many points, each sustains a proportionably less degree of weight and friction, than when it bears only upon a few points; so that what is wanting in one, is made up in the other; and therefore will be just equal under equal degrees of weight, as may be shown by the following plain and easy experiment.

Let one end of a piece of packthread be fastened to a brick, and the other end to a common scale for holding weights: then, having laid the brick edgewise on a table, and let the scale hang under the edge of the table, put as much weight into the scale as will just draw the brick along the table. Then taking back the brick to its former place, lay it flat on the table, and leave it to be acted upon by the same weight in a scale as before, which will draw it along with the same ease as when it lay upon its edge. In the former case, the brick may be considered as a narrow wheel on the ground, and in the latter as the broad wheel. And since the brick is drawn along with equal ease, whether its broad side or narrow edge touches the table, it shows that a broad wheel might be drawn along the ground with the same ease as a narrow one, (supposing them equally heavy) even though they should drag, and not roll, as they go along.

As narrow wheels are always sinking into the ground, especially when the heaviest part of the load lies upon them, they must be considered as going constantly up hill, even on level ground. And their sides must sustain a great deal of friction by rubbing against the ruts made by them. But both these inconveniences are avoided by broad wheels; which, instead of cutting and ploughing up the roads, roll them smooth, and harden them; as experience testifies in places where they have been used, especially either on wetish or sandy ground; though after all it must be confessed, that they will not do in stiff clayed cross roads, because they would soon gather up as much clay as would be almost equal to the weight of an ordinary load.

If the wheels were always to go upon smooth and level ground, the best way would be to make the spokes perpendicular to the naves, that is, to stand at right angles to the axles; because they would then bear the weight of the load perpendicularly, which is the strongest way for wood. But because the ground is generally uneven, one wheel often falls into a cavity or rut when the other does not; and then it bears much more of the weight than the other does; in which case, concave or dishing wheels are best, because when one falls into a rut, and the other keeps upon high ground, the spokes become perpendicular in the rut, and therefore have the greatest strength when the obliquity of the load throws most of its weight upon them; while those on the high ground have less weight to bear, and therefore need not be at their full strength. So that the usual way of making the wheels concave is by much the best.

If there be some advantage from small fore wheels, on account of the carriage turning more easily and short than it can be made to do when they are large: there is at least as great a disadvantage attending them, which is, that as their axle is below the level of the horse's breast, the horses not only have the loaded carriage to draw

along, but also part of its weight to bear; which tires them sooner and makes them grow much stiffer in their hams than they would be if they drew on a level with the fore axle. And for this reason we find coach horses soon become unfit for riding. So that on all accounts it is plain, that the fore wheels of all carriages ought to be so high, as to have their axles even with the breast of the horses; which would not only give the horses a fair draught, but likewise keep them longer fit for drawing the carriage.

On Parmesan Cheese.

The reader will recollect that Mr. Pickering made some remarks on the making of Parmesan cheese, as gathered from a conversation with Mr. Jefferson, respecting his travels in Europe, when he was there as minister from the United States to the French court. We now submit the following letter from Mr. Jefferson himself, with an extract from his travelling notes, detailing his observations on the subject. The young reader will be at no loss to extract the moral conveyed by the example of these eminent men, who in the midst of public duties of the highest political importance, have never thought it too much condescension, to turn aside when opportunities occurred, to treasure up any sort of useful information which might enable them to contribute to the private comforts and unostentatious pleasures of domestic life.

From a highly accomplished gentleman and scholar, who once filled a high station in the government and is now a zealous agriculturist, we heard an anecdote illustrative of the idea, we would here convey, which because it struck us as highly honourable to our country, and creditable to the parties, we may be excused for relating.

This gentleman was entertaining a large dinner party, amongst them all the foreign ministers and many of the most distinguished members of Congress, at the time, with others, Mr. Pickering and Mr. Hillhouse. The host gave the tone and direction to the conversation of the company, and after dwelling for some time on scientific and literary subjects, in which farmers Hillhouse and Pickering, bore a conspicuous and honourable part, he led them to discourse on agriculture—when it came out to the utter surprise of many of the company, more especially the foreign ministers, that these two venerable gentlemen actually participated in the manual labour of almost every operation on their farms. To dissipate all uncertainty on a matter that seemed so inconsistent with the usual habits of men in their station, Mr. Pickering turned to his next neighbour, and giving him his hand, he no longer doubted.

Monticello, Feb. 24th, 1820.

MR. SKINNER,

Sir—A low state of health renders writing slow, laborious and painful; but a friend has aided me by copying from my travelling notes the method of making Parmesan cheese, which you requested.

I attended at a dairy at Rozzano, from sunrise to sunset, made short notes on the spot of what

was passing under my eye, and of the information given me by the people of the dairy, and when I returned to my lodgings at Milan at night, I wrote them at full length.

Soon after my return to America in 1789, or a year or two after, I saw in some periodical publication, an account of the making Parmesan cheese, furnished by Dr. Franklin, on the information of some person, who appeared to be well informed. I remarked in it several particulars, which I had omitted to note, which I recollected to be true, and several particulars omitted which I had noted and knew to be true, and thought the two accounts would be useful supplements to each other; there were two periodical works appearing at that time, to one of which I know that Dr. Franklin furnished some papers: these were Carey's Museum, and the American Magazine, it was probably in one of these but possibly in some other, for I have no recollection exactly of the work in which I saw it, but it is well worth inquiry.* I return the letter of Mr. Pickering,† and salute you with esteem and respect.

THOMAS JEFFERSON.

Rozzano. Parmesan Cheese.—It is supposed this was formerly made at Parma, and took its name thence, but none is made there now, it is made through all the country extending from Milan 150 miles. The most about Lodi; the making of butter being connected with that of cheese, both must be described together. There are in the stables I saw, 85 cows, fed on hay and grass, not on grain. They are milked twice in the twenty-four hours, ten cows yielding at the two milkings a brenta of milk, which is twenty-four of our gallons. The night's milk is scummed on the morning at day break; when the cows are milked again, and the new milk mixed with the old; in three hours the whole mass is scummed a second time, the milk remaining in a kettle for cheese, and the cream being put into a cylindrical churn, shaped like a grind stone—eighteen inches radius and fourteen inches thick. In this churn there are three staves pointing inwardly endwise to break the current of the milk, through its centre passes an iron axis, with a handle at each end, it is turned about an hour and a half, by two men, until the butter is produced, then they pour off the buttermilk and put in some water, which they agitate backwards and forwards about a minute, and pour it off; they take out the butter, press it with their hands into loaves, and stamp it, it has no other washing. Sixteen American gallons of milk, yield fifteen pounds of butter, which sells at twenty-four sous the pound.

* In Carey's Museum of 1788, we find some remarks on cheese making in general, which were probably communicated by Dr. Franklin, but nothing about Parmesan cheese in particular; we have not been able to find the "American Magazine." There is in the Baltimore library the "Columbian Magazine" but it does not that we can discover contain anything on this subject. In "The Principles and Practice of Agriculture," we find the subjoined article, which we publish to be read in connexion with Mr. Jefferson's notes.

† Published in the Farmer, page 364.

The milk which after being scummed as before, had been put into a copper kettle, receives its due quantity of rennet, and is gently warmed if the season requires it, in about four hours it becomes a slip; then the whey begins to separate. A little of it is taken out, the curd is then thoroughly broken by a machine like a chocolate mill, a quarter of an ounce of saffron is put to 7 prents of milk to give colour to the cheese. The kettle is then moved over the hearth and heated by a quick fire, till the curd is hard enough, being broken into small lumps by continual stirring; it is moved off the fire, most of the whey taken out, the curd compressed into a globe by the hand, a linen cloth slipped under it, and it is drawn out in that; a loose hoop is then laid on a bench, and the curd wrapped in the linen, is put into the hoop; it is a little pressed by the hand, the hoop drawn tight and made fast; a board two inches thick is laid on it, and a stone on that of about twenty pounds weight; in an hour the whey is run off and the cheese finished.—They sprinkle a little salt on it every other day in summer, and every day in winter for 6 weeks. Seven brentas of milk make a cheese of fifty lb. which requires six months to ripen, and is then dried to forty-five pounds, it sells on the spot for 88 ls. the hundred pound: there are now 150 cheeses in this dairy, they are nineteen inches diameter and six inches thick; they make a cheese a day in summer, and two in three days, or one in two days in winter.

The whey is put back into the kettle, the buttermilk poured into it, and of this they make a poor cheese for the country people, the whey of this is given to the hogs. Eight men suffice to keep the cows and do all the business of this dairy. Mascarpone, a kind of curd, is made by pouring some buttermilk into cream, which is thereby curdled, and is then pressed in a linen cloth.

The ice houses at Rozzano are dug about fifteen feet deep, and twenty feet diameter, and poles are driven down all round, a conical thatched roof is then put over them fifteen feet high, pieces of wood are laid at bottom to keep the ice out of the water which drips from it, and goes off by a sink; straw is laid on this wood, and then the house filled with ice, always putting straw between the ice and the walls and covering ultimately with straw, about a third is lost by melting; snow gives the most delicate flavour to creams; but ice is the most powerful congealer and lasts longest; a tuft of trees surrounds these ice houses.

Account of the making of Parmesan Cheese.

By Mr. Zappo, of Milan, in answer to queries by Arthur Young, Esq.

From the middle of April, or sooner if possible, the cows are sent to pasture in the meadows till the end of November usually. When the season is past and the snow comes they are put into stables for the whole winter and fed with hay.—Between nine and ten in the morning the cows are sent to water, and then to the pastures, where they remain four or five hours at most, and at 3 or 4 o'clock are driven to the stables, if the season is fresh, or under porticoes if hot; where for the night a convenient quantity of hay is given

them. No owner will leave his cattle without great cause, in uncovered places at night. It happens only to the shepherds from the Alps, when they pass, because it is impossible to find stables for all their cattle. For a dairy farm of 100 cows, which yields daily a cheese weighing 70 or 75 lb. of 28 ounces, are wanted 1090 perugas of land. Of these about 800 are standing meadows, the other 200 are in cultivation for corn and grass fields in rotation. Those that are in milk are milked morning and evening, with exception of such as are near calving.

The 100 cows form a dairy farm of a good large cheese: it is reckoned that 80 are in milk, and twenty with calves sucking or near calving. They reckon one with the other about 32 boccalis of 32 oz. of milk. Such is the quantity for a cheese of about 70 lb. of 28 oz. They join the evening with the morning milk, because it is fresher than it was that of the morning and evening of the same day, for the morning milk would be twenty-four hours old, when the next morning the cheeses should be made. From the evening milk all the cream possible is taken away for butter mascarpone, (cream cheese) &c. The milk of the morning ought to be skimmed slightly—but every one skims as much cream as he can. The butter is sold on the spot immediately at 24 sous: the cheese at about 28 sous. The butter loses nothing in weight, the cheese loses one third of it, is subject to heat, and requires expenses of service, attention, warehouses, &c. before it is sold; and a man in two hours, makes 45 or 50 pound of butter that is sold directly. However, it is not possible to leave much cream in the milk to make Lodesan cheese, called grained cheese, because if it is too rich it does not last long, and it is necessary to consume it while young and sound.

"Parmesan or Lodesan cheese is made every day in the year with one hundred cows. In winter however, the milk being less in quantity, the cheese is of lesser weight, but certainly more delicate. The morning of the third of March, 1786, I have seen the whole operation, having gone on purpose to the spot to see the whole work from beginning to the end. At 16 Italian hours, or ten in the morning, according to the northern way to account hours, the skimming of that morning's milk, gathered only two hours before, was finished. I did meanwhile examine the boiler or pot. At the top it was eight feet (English) diameter or thereabout; and about five feet three inches deep, made like a bell and narrowing towards the bottom to about two and one half feet. They joined the cream produced that morning with the other produced by the milk of the evening before. That produced by the last milk was double in quantity to that of the morning milk, because it had the whole night to unite and that of the morning had only two hours to do it, in which it could not separate much. Of the cream, some was destined to make mascarpone, (cream cheese,) and they put the rest into the machine for making butter. Out of the milk of the evening before and of that morning, that was all put together after skimming, they took and put into the boiler 272 boccali, and they put under it two faggots of wood; which being burnt, were sufficient to give the milk a warmth a little superior to lukewarm. Then the boiler

being whirled round by the fire the foreman put into it the rennet which they prepare in small balls of one ounce each, turning the ball in his hand which he always kept in the milk entirely covered, and after it was perfectly dissolved, he covered the boiler to keep the milk defended that it might not suffer from the coldness of the season, particularly as it was a windy day. I went then to look on the man that was making mascarpone, &c. and then we went twice to examine if the milk was sufficiently coagulated. At the 18 hours, according to the Italian clocks, or noon, the true manufacture of cheese began. The milk was coagulated in a manner to be taken from the boiler in pieces from the surface. The foreman with a stick that had 13 points, or rather nine small pieces of wood fixed by their middle in the end of it, and forming nine points on each side, began to break exactly all the coagulated milk, and did continue to do so for more than half an hour, from time to time examining it to see its state. He ordered to renew the fire and four faggots of willow branches were used all at once, he turned the boiler that the fire might act; and then the underman began to work in the milk with a stick like the above, but only with four small sticks at the top, forming 8 points, four at each side, a span long each point. In a quarter of an hour the foreman mixed in the boiler the proper quantity of saffron, and the milk was all in knobs, and finer grained than before, by the effect of turning and breaking the coagulation, or curd, continually. Every moment the fire was renewed or fed but with a faggot only at a time, to continue it regular. The milk was never heated much, nor does it hinder to keep the hand in it to know the fineness of the grain, which refines continually by the stick-work of the underman. It is of the greatest consequence to mind when the grain begins to take a consistence. When it comes to this state, the boiler is turned from the fire, and the underman immediately takes out the whey, putting it into proper receivers. In that manner the grain subsides to the bottom of the boiler; and leaving only in it whey enough to keep the grain covered a little, the foreman extending himself as much as he can over and in the boiler unites with his hands the grained milk making like a body of paste of it. Then a large piece of linen is run by him under that paste, while another man keeps the four corners of it, and the whey is directly put again into the boiler, by which is facilitated the means of raising the paste that is taken out of the boiler, and put for one quarter of an hour into the receiver where the whey was put before, in the same linen it was taken from the boiler; which boiler is turned again directly on the fire, to extract the mascarpa (whey cheese) which is a second product eaten by poor people. After the paste remained for a quarter of an hour in that receiver, it was taken out and turned into the wooden form, called sassena, without any thing else made than the rotundity, having neither top nor bottom. Immediately after having turned it into that round wooden form, they put a piece of wood like a cheese on it, putting and increasing gradually weights on it, which serve to force out the remnant of the whey; and in the evening the cheese so formed is carried into the warehouse, where after twenty-four hours they begin to give the salt. It remains in that warehouse for fifteen

or twenty days, but in summer only from eight to twelve days. Meanwhile the air and salt form the crust to it; and then it is carried into another warehouse for a different service. In the second warehouse they turn every day all the cheeses that are not older than six months; and afterwards it is enough if they are only turned every 48 or 60 hours, keeping them clean in particular of that bloom which is inevitable to them, and which, if neglected, turns musty, and causes the cheese to acquire a bad smell. The Lodesan, because it is a province watered, has a great deal of meadows and abounds with cows, its product being mostly in cheese, butter, &c. However the province of Pavia makes a great deal of that cheese; and we Milanese do likewise the same from the side of Porte Tosa, Romana, Ticinese and Vercilino, because we have fine meadows and dairy farms.

[*Forsyth's "Principles and Practice of Agriculture."*]

For the American Farmer.

ON CHICORY AND POT LIQUOR.

The former as a substitute for coffee—the latter a cure for the pip, in poultry.

Winchester, March 10, 1820.

DEAR SIR,

In contributing my testimony in favour of the chicory or succory root, (*chicorium intubus*) as a partial substitute for coffee, it is not pretended that I shall communicate to your readers any new discovery; but at this time of general calamity produced by the very limited circulation of money, and when prudence and wisdom call for economy and retrenchment, and when all other remedies for the disease have been denounced as totally ineffectual, I hope to be excused by my countrymen, in an attempt to revive an old discovery, which I am strongly induced to believe will save some millions to the citizens of the U. States, although it may diminish the revenue of the government. A neighbour, Mr. R. Heterick, had without my knowledge, procured from my gardener some roots of the chicory, and prepared it according to the direction of judge Cooper, to be found in the first vol. page 326, of his emporium of arts and sciences, and surprised me this morning, with a visit to breakfast, bringing with him the chicory in pieces, and one third of its weight in burnt coffee; my wife was such an *infidel* to its qualities, as a substitute for coffee, or even a partial one, that she at first opposed the grinding of it in our coffee mill, adding, that none of us would drink it after it was made. Mr. Heterick's assurance however, that he had used it in his family, and that all were pleased with it, together with her confidence in his taste and judgment, superadded to my advice, induced her to yield to the experiment; what was our surprise at breakfast to find, notwithstanding the prejudices to be inferred from what has been stated, that she at once became a convert to the opinion in which Mr. Heterick and myself had united, that we never had drank better if as good coffee at any time or place. I should not have troubled you with so minute a detail of circumstances, but that my effort is due to the introduction of this preparation of the chicory into families, and the

household goddesses, (in this respect our only oracles) are, and indeed ought to be consulted on so great a change in family economy; you will will render great service, my dear sir, by adding to this scrap of mine, in judge Cooper's paper, which I have quoted. It will there be found that the substitution of chicory for coffee, constitutes but part of its value; the leaf as a green food, or for hay, yields an almost incredible crop, and of so excellent a quality, as to be greedily devoured by cattle of all kinds—under the impression that you will publish the paper alluded to,* I shall close my remarks on the chicory, and proceed to a fact which took place at my plantation during the last year, of some value to be known, if the conclusion drawn from it be a correct one; if not no injury will result from repeating the experiment. My manager has lived with me ten years, and near the house where his wife raised chickens, turkeys &c.—the land has been long cleared, it is generally, if not universally true, that poultry on old farms are subject to the pip; until last year the manager's wife had been always unsuccessful in raising chickens, particularly in consequence of this fatal malady; last spring and summer she was astonished to find, out of how many dozen I don't now recollect, that she had not lost one by that disorder, and ascribes it exclusively to their drinking pot liquor. I asked her if her success might not have been attributed to the drought? or some other cause, her reply was, that whilst she had lived on the farm, there had been some years nearly as dry as the last, (for we were more seasonable than some of our neighbours) and by means of boarding many workmen and having a profusion of pot liquor, always accessible to the poultry, and observing them to use it freely, she had no doubt that this was the cause of their unusual health. I repeat that the experiment will be perfectly innocent, and if it should result in being a complete remedy to disengage the worm† (supposed to be the cause of the pip) from the throat of the fowl, much good will have been done by the communication of the fact.

Respectfully yours,
H. HOLMES.

* It shall be done hereafter. *Ed. Am. Far.*
† Speaking of the worm induces us to suppose that judge Holmes means the gapes not the pip. *Ibid.*

For the American Farmer.

On Chesnuts, Locusts, &c.

[Useful and interesting remarks on the measurement of land, the coffee nut tree, grafting hickory nuts, chesnuts, &c. &c. On budding, in general, and a comparison of fences, of different kinds, with observations on planting chesnuts and locusts.]

Mr. Skinner,—With this you will receive a manuscript table of squares in an acre of land, from one to forty feet, and which I hope you will find correct.

I had so frequently in the course of agricultural and planting experiments to make these calculations that about the year 1796, I determined to complete a table, which should be always ready.

I now place it in your hands, upon express conditions, that you will print one half sheet with these tables, with as large type as the half sheet will admit of to include all the calculations; that you will page it in a form which will enable your subscribers to fold the paper in the manner of a small pocket almanac, that you will send to each of your subscribers one of these copies; and lastly, that you will return to me the manuscript, together with two printed copies, stitched in stiff marble covers, in the form of small almanacs.

You will also receive twenty-seven pods of the *Guilandina Dioica*, (Hardy Bundoche, or Kentucky Coffee tree,) commonly called the Bundoche. The wood is hard and very coarse grained, and I should suppose it a durable forest. It is a quick grower, but not very ornamental, and apt to throw out suckers at a considerable distance from the tree.

I also enclose to you a few seed of a clover, brought from Italy by Mr. Hand, from Chester town, and presented to me by Dr. James M. Anderson, of that place, who has ascertained that it is a perennial plant, extremely luxuriant and productive, possessing this advantage over our clovers, that it arrives at perfection the first summer after the spring seeding. If I am not mistaken it grows in the vicinity of Naples. I will thank you to forward to the Agricultural Society of South Carolina, at Charleston, in your own name the few seed folded for them, and when you have ascertained the true character and name of this plant let us hear from you.

In answer to "A Subscriber," in No. 50, I can inform him, that neither walnuts or mulberries, will take by grafting or inoculating. In these arts I consider myself an adept, but after experimenting for forty years, I have never succeeded in one instance. I am of opinion they can only be propagated by seeds, layers, or inarching.—Let me recommend to all who are in the practice of budding, to wrap with coarse strong woollen yarn, doubled and twisted, such as is used for the coarsest negroes stockings. It is not only necessary that the end should be made tight, but that the air should be excluded from the cut; the yarn wraps closer and neater than any other string, and will yield a little to the growth of the stock; let me also add, that I never take the wood from the bud.

Of the *Juglans Regia*, most improperly called English walnut, I have two favourite young trees. I met with the nuts on a huckster's stall, in Philadelphia, they were quite as large as any two American nuts which I ever saw, and at the same time with a thinner shell—they came from France, perhaps you can influence some public spirited merchant to import these fine nuts from Bordeaux.

I also have two trees of the large Spanish Chesnut, one the size of a man's wrist. Their growth is quicker than our native chesnut, and near Wilmington, Delaware, some have produced fruit, but if I am to judge from the specimen sent me, the fruit is not so large as the imported. Who has succeeded in grafting or budding chesnuts?

A few words on fencing. Circumstanced as Mr. Holmes is, he may find it advantageous to

* This shall be attended to. *Ed. Am. Far.*

ect stone fences. Of this article to my sorrow do not own any, but I am the proprietor of extensive and admired thorn hedges: objections to both stone and thorn enclosures. Rats, mice, and ground squirrels, are the steady inhabitants of the former, and the latter require constant care and attention to lay, trim, dress up hedges, and grub up briars and intruding wood, driven there by birds. Without this neat care they come ragged, and hogs and cattle find passages through them. The duration of a post and rail fence made from red or black oak rails and white oak posts, cannot be relied upon after eleven years, and is an expensive fence to erect; a fence of rails and posts, from chesnut and locust, is perhaps the neatest and best of all fences, but if you have the materials to purchase, it will be like the Indian's gun.

If a man of fortune and taste, is desirous to embellish a favourite spot without regard to cost, advise him to make all his enclosures of post and rail, but if the proprietor of an extensive farm, wishes to be upon good terms with his neighbours, to sleep quietly in his bed, and to do all much with the least cost, let him stick to the substantial and old fashioned worm fence; a fence which requires but little skill to erect, can be made from the most dissorted materials; is most easily repaired and can be as easily removed, either to change the form of the fields, to plough, and remove the rich soil of the headland, or for the purpose of removing briars, &c. Make a worm fence from young chesnut timber, and give good size to the rails, and it will not be unreasonable to allow thirty years duration for such a fence.

Every farmer however, should appropriate a certain portion of land for chesnut and locust—and if once growing and enclosed, they are planted for endless time, for if cut at the proper season the tree is certainly renewed with increased vigour.

At fifteen feet apart, ten acres will contain 930 chesnut trees, the growth from the nut is indeed slow, and perhaps it will require 20 years to give you two rails from each tree, but the succeeding twenty years will as certainly give you eight rails from each stump, or 15440 rails.—They will however grow just as well at ten feet apart, and of course at the same periods, give you 8,700 and 34,800 rails.

An acre of locusts at six feet distance, will give you 1210 trees, or 6050 trees for five acres; but as chesnut does not require the best land, locust must have land of good quality, rather low, but not wet, and if light as well as rich, all the better. The advantage of planting at six feet must be manifest. They are drawn up straight, and the nourishment which forms innumerable useless branches when growing on close rows, is thrown into tall trees suitable for posts. With proper care, I will ensure to you at the end of 15 years, as many prime posts as you have trees growing, besides a great number of tops suitable for rails, as well as the most lasting crotches, always useful upon a farm, you may cut every 10th year.

I have commenced my chesnut planting in boxes, made of the coarsest materials; of the chesnuts which I barreled up with dry sand, a great many float and are thrown away, such as

sink, are as fresh as if just taken from the tree. You shall be informed of my success.

Your obedient servant,

A SUBSCRIBER.

FOR THE AMERICAN FARMER.

On Hedging, No. 7, and last.

[Continued from page 404.]

By CALEB KIRK, OF DELAWARE.

As a comparative view was given in number 14, of the Farmer—I had not intended to have made further calculations respecting rail fences, and live ones; but some of my neighbours practical hedgers, seemed desirous the subject should be carried to the extent of some of our small farms at least.

As farms are divided amongst heirs by virtue of our state laws, many of them are now not more than from one to two hundred acres.

We shall take one of a hundred acres as a rule to try the difference of expense in making the first fence of each kind, supposing it without fence: according to our mode, it would be divided into ten acre fields, say ten divisions including wood land, which must also be enclosed, would take 2500 pannels of post and rail fence, at 75 cents, amount to \$1875 for the enclosing and dividing 100 acres, no allowance for half the line fence maintained by adjoining neighbours: because the *homestead* and the public roads, would in nine cases out of ten, cause more fencing to the owner than half his lines.

The live fence agreeable to the foregoing estimate of \$24 75 for 60 perches, would amount to \$1031 for the finished hedge, at seven years old, leaving a balance in favour of the hedge, as follows:

Rail fences,	\$1875
Thorn hedge,	1031

Six wooden fences in succession of oak, the common kind, in our best farming land, would not last more than 100 years. - - - \$1875

Cost of Fences in one century, Dr. - \$11,250

Note. The balance in favour of live fences at the end of seven years, enclosing a farm of one hundred acres, would be *eight hundred and forty four dollars*; a handsome thing for a young farmer to receive \$60 64 cts. interest upon annually, to aid in other improvements. On the other hand the decay of wooden fences would be gradually adding to his burthens undiscovered, to say nothing about the consumption of timber, that would be accumulating in value, and at the close of one century, would bring his farm in debt \$11 250 or half that sum at the end of fifty years, which might be probably within his own lifetime \$5,625; these are considerations worth paying some attention to.

The annual trimming of hedges, is considered not to exceed the repairs of the wooden fences, according to the best of my judgment, in expense. I have since making the above estimate, consulted several practical men on this head, and they all agree with me in my calculation.

The only question is *durability*; which is thrown in the opposite scale at random. I feel less doubt the longer my experience continues; my inquiries of Europeans on that head, have been satisfied, so far as memory and records can shed light on the subject; one instance of 300 years is quoted, another of 600, in the writings belonging to land Titles, these remained good hedges when my informants saw them.

This part of the subject, requires all the light that can be had to remove doubts; I hope it will not be withheld by those in possession of any thing further, to satisfy doubts that may yet remain.

ON CLAY ASHES,

USED AS A MANURE,

One of the most valuable discoveries that ever has been made in Agriculture.

CALLY, January 28th, 1815.

Having had occasion for some years past to go repeatedly to Ireland, I was struck with the method adopted in some parts of that country of burning clay, and making use of the ashes in preference to lime, of which there is such abundance. The method also adopted of causing the clay; just as it is dug out of the ground, without the assistance of one combustible, and without preparation of any sort, to burn of itself, arrested my attention; and having witnessed the crops of wheat and corn of every description, as well as flax and potatoes, luxuriant almost beyond credibility, produced from stiff clay soils, without the aid of any other manure than ashes so obtained, I determined to make the experiment at home; and accordingly on my return, I commenced operations, and have practised the burning of sub-soil for three years, with the greatest success. I was at first puzzled for want of clay but I hit upon a vein or bed of tenacious sub-soil, partly tile and partly clay, which answers the purpose quite well, though I do not apprehend it is so good as clay. The ashes I have hitherto applied solely to the production of turnips, but within the last ten days, I have laid nearly 500 cart loads on grass lands, as a top dressing; my turnip crop from ashes have far exceeded any thing of the kind in this neighbourhood. I was twice in London in the course of last summer harvest, and on my way to and from town, I saw no turnips superior, hardly any equal to my crop, though I passed through Berwickshire and Northumberland. Last season by way of experiment, I manured part of a turnip field with well rotted stable dung, which was ploughed in the same day it was laid out, the remainder with ashes;—the seed which was of the yellow field sort, was sown on the same day: that sown on the ashes sprung up much earlier than that on the dung, continued more vigorous during the season, and when I pulled them lately, the turnips produced from the ashes, were more than double the size of those from the dung. I regret that I did not weigh the produce of each, but I have marked off a square chain of Swedish, which I mean to weigh, to ascertain the produce per acre.

Excepting myself no person has hitherto practised the burning clay or sub-soil in this country, till last season, when I prevailed on Mr. John

Wallace, in Fugland Parish, to try the experiment. Though it was about the beginning of May, before the burning commenced, yet Mr. Wallace obtained as many ashes as manured 20 acres. Notwithstanding the turnips were later of being sown than usual, and were too long in being hoed, Mr. Wallace obtained for them the second premium for green crop, from the agricultural society in the Stewartry, and since that time, the Highland Society, have awarded him their first premium. Mr. Wallace has a considerable quantity of ashes on land for his Swedish turnips this season, and he means to have at least 50 acres of turnips from ashes. So fully convinced is he of the superior efficacy of clay ashes, that he has repeatedly declared to me, he would not now be at the trouble of carting dung from Kirkcudbright to his farm, though only one mile and a half distant, even if he were to get the dung in as a present. To burn the clay has cost me one shilling per cart load.—Mr. Wallace laid on at first 45 cart loads to the acre, and diminished the quantity to 30. I laid on, however, a much larger quantity; but I should imagine that from 40 to 50 loads per acre, would be a fair dose for our light soils.—To you who have experienced the beneficial result of ashes obtained by piling and burning the surface, it is needless to have said any thing in favour of ashes obtained from burning sub-soil, or to mention the facility which they afforded to the green crop system, to an extent not hitherto contemplated; I may however mention, that this year by means of ashes, I was enabled to raise three times the quantity of green crop that I had of white crop, and though my farm is no doubt of small extent, still it shows what may be done on a larger scale, where greater facilities can be obtained. Though I do not apprehend that any written account I can give you, will afford half so satisfactory an idea of the method of burning clay, or any kind of sub-soil of moderate tenacity, as ocular inspection of the work, yet I shall give you the best description I can. The general method of proceeding to work, is to make an oblong enclosure of the dimensions of a small house (say 15 feet by 10) of green turf sods raised to the height of 3½ to 4 feet. In the inside of this enclosure air pipes are drawn diagonally, which communicated with holes left at each corner of the exterior wall. These pipes are formed of sods put on edge, and the space between them so wide only, as another sod can easily cover. In each of the four spaces left between the air pipes and the outer wall, a fire is kindled with wood and dry turf, and then the whole of the inside of the enclosure, or kiln, filled with dry turf, which is very soon on fire, and on the top of that, when well kindled, is thrown the clay in small quantities at a time and repeated as often as necessary, which must be regulated by the intensity of the burning. The air pipes are of use only at first, because, if the fire burns with tolerable keenness, the sods forming the pipes will soon be reduced to ashes. The pipe on the weather side of the kiln only is left open, that the mouths of the other three being stopped up, and not opened except the wind should veer about.

As the inside of the enclosure or kiln, begins to be filled up with clay, the outer wall must be

raised in height, always taking care to have it at least 18 inches higher than the top of the clay, for the purpose of keeping the wind from acting on the fire. When the fire burns through the outer wall, which it often does, particularly when the top is overloaded with clay, the breach must be stopped up immediately, which can only be effectually done by building another sod wall from the foundation, opposite to it, and the sods that formed that part of the first wall are soon reduced to ashes. The wall can be raised as high as may be convenient to throw on the clay, and the kiln may be increased to any size, by forming a new wall when the previous one is burnt through. I have had kilns so wide as to afford space for a horse and cart to turn on them; but when they are so broad, it requires the workmen, to walk on the top of them, when feeding with clay, which I would not recommend, because the more loosely the clay can be laid on, the more rapidly will it burn. I did not take all the trouble above stated with my kilns, having the advantage of a quantity of old moss sticks and tree roots, which I split, I kindled a large parcel of them, and surrounded the fire with a quantity of dry turf, and, as soon as it was well kindled, I built round it a strong wall of sods and went on, adding clay to the fire and sods to the outer walls when necessary, till the kilns were so large as to contain 100 loads of ashes.—The principle secret consists in having the outer wall made quite close and impervious to the external air, and taking care to have the top always lightly, but completely covered with clay, because if the external air should come in contact with the fire, either on the top of the kiln, or by means of its bursting through the sides, the fire will be very soon extinguished; in short the kilns require to be attended nearly as close as charcoal pits. Clay is much easier burnt than either moss or loam—it does not undergo any alteration in its shape, and on that account allows the fire and smoke to get up easily between the lumps,—whereas moss and loam, by crumbling down, are very apt to smother the fire, unless carefully attended to.

No rule can be laid down for regulating the size of the lumps of the clay thrown on the kiln, as that must depend on the state of the fire; but I have found every lump completely burnt on opening the kiln, and some of them were thrown on larger than my head. Clay no doubt burns more readily if it be dug up and dried for a day or two before it be thrown on the kiln, but this operation is not necessary, as the clay will burn though thrown on quite wet. After a kiln is fairly set a going, no coal or wood, or any sort of combustible is necessary, the wet clay burning of itself, and it can only be extinguished by intention or by the carelessness of the operator,—the vicissitudes of the weather having hardly any effect on the fires, if properly attended to. It may perhaps be necessary to observe, that when the kiln is burning with great keenness, a stranger to the operation may be apt to think the fire is extinguished; if, however, any person either through impatience, or too great curiosity, should insist on looking into the interior of the kiln, he will certainly retard, and may possibly extinguish the fire;—For as I mentioned before the chief secret consists in keeping out

the external air from the fire. In East Lothian, where there is abundance of clay and no great quantity of green turf, it would perhaps be best to burn the clay in draw kilns the same as lime, and I apprehend your friend Mr. Bogne, will adopt that method.

I am no chemist, but I suppose the sub-soil burnt in those kilns, is superior to the surface burnt in open heaps, which is the general mode of burning in this country, in proportion as it contains a much greater quantity of carbon, which combining with oxygen gives out carbonic acid, and these, as you know, according to recent discoveries in chemistry, form the food of vegetables. By having kept my eyes open during my first visit to Ireland I consider that I have rendered my neighbours two essential services; the first by showing them how to convert a moderate expense the most barren sub-soil into excellent manure, the other by bringing into notice the external application of green liverwort (*lichen vulgæris*) as an infallible cure for the dropsy. I was laughed at when first I broached these matters, both by the agriculturist and medical practitioner; but having witnessed the successful results of both, I determined to persevere in spite of the ridicule with which I was assailed, and now the most eminent physician in the south of Scotland has declared, that he could not reconcile it to his conscience not to apply liverwort in every case of dropsy, in which he may be consulted; and clay ashes bids fair very speedily to come into equal estimation with the agricultural world.

I am, &c.

ALEXANDER CRAIG.

To Edward Boyde, Esq. }
of Merton Hall, near }
Newtown, Stewartry.

The greatest part of the above letter was published in the 4th Vol. of the Memoirs of the Philadelphia Society for the promotion of Agriculture.

Cancer Plaster.

MR. SKINNER,—Some years past, the late Dr. Littlejohn gave the subscriber a prescription, which is called "Logan's cancer plaster," assuring him that he had found it an admirable composition for removing hard tumors—having occasion for such applications, I have used it in several cases with complete success; two of them I am satisfied would have been the subjects of the knife, but for this most excellent composition. Although there are some very excellent lead plasters and ointments in the London and Edinburgh Dispensatories, yet there is none exactly like this in consistence and quality.

The method of preparing it by boiling oil to a consistence over the calces of lead being very tedious, I substituted the following short process.
Take common Diachylon - 4 ounces
Castile Soap - - - ½ ounce.
White Lead, ground (as in kegs) in oil - - - 3 ounces.

Break the Diachylon into small pieces, and put it into a plate with two or three teaspoons full of water, set this on a stove to melt, very gently stirring it as it melts, when melted, add

the soap scraped into the finest shavings, and stir it till it be thoroughly incorporated, and then add the white lead, stirring the whole, till it forms one uniform mass. MEDICUS.

FOR THE AMERICAN FARMER.

On Barley as a Fallow crop.

Brandywine, 5th, Mo. 1820.

Esteemed Friend.—Having made some reply to "Sidney's inquiries concerning a substitute for oats as a fallow crop, Number 40. I have since had communications direct on that subject, and I find from this circumstance, the culture of the spring barley, is very little known or understood in some parts of Maryland and Virginia, which climate I should suppose is friendly to its growth, and much of the soil, I have no doubt, if properly managed, would produce a good return.

I shall for the benefit of those who are desirous of making a trial, quote some experimental facts relative to the culture of barley that have come immediately under my notice. It regards *exhausted land*; because the general impression, even in my own neighbourhood, is that it is useless to sow that grain, unless in rich soil, which I believe to be an erroneous impression—we will readily acknowledge a soil bounding in fertilizing properties, needs very little aid nor we instruction how to cultivate.—But having fourteen years past, been a manufacturer of that grain, and in the practice of receiving it from farmers on different soils and distant neighbourhoods, I have found in many instances, as well from my own culture, as that of others, that upon land *newly improved* from state of poverty, the heaviest grain is obtained; that is the *heaviest in the bushel*. I am ready to believe this rule will hold good as it respects wheat, and other grain, but as it respects barley, I think there need be no doubt that rich soil forces up too much straw, this being weak often falls with rains and winds, that happen near harvest, before it is filled; consequently the grain is light; or if it should continue upright, it is so crowded by its luxuriance of straw, that the grain cannot obtain that degree of perfection it otherways might. The latter is matter of opinion, the former are facts. I often received the best grain from some of the *small farmers*, who were careful, but not yet arrived at eminence, by raising large crops. An example of this sort was given in the course of my remarks on this subject, page 596 of the Farmer.

The foregoing facts are related with correctness, and may be some guide for the owners of much of the exhausted land in Baltimore and Hartford counties, in the vicinity of one of the best markets in the United States. Barley would be one of the crops that would assist in the renovation of those miserably exhausted fields if judiciously cultivated—there is no grain we sow, that is so friendly to clover as the spring kind; and rolled after sowing, so as to pulverise every clod, there is no other crop that keeps the soil as mellow, it consequently holds more moisture in a dry season—as a further proof of this fact, I would suggest a trial of oats and

barley, side by side; when taken off, cross-plough the ground plot, they both grow on and their state will readily decide in favour of the barley crop.

There are some very judicious remarks in Number 40, on the subject of destroying garlic, by Thomas E. Bond, (taken from Niles's Register) by frequent ploughing, and exposing to the winter frosts, and sowing oats and other crops while in culture; I can subscribe to the efficacy of the plan, but instead of oats as an *exhausting* crop which he allows, I would propose the spring barley, which is considered rather a preparation crop than an exhauster.

But good and effectual ploughing is essential to prevent the garlic from seeding amongst wheat; my land has plentifully abounded with that unpleasant root. Though no injury to grain crops since the culture of Indian corn, barley and wheat in rotation, not a single head is to be found, where good ploughing is attended to. It has become proverbial amongst millers when they see garlic in grain, that bad farming or rather bad ploughing is the cause; and it is so well understood in my neighbourhood, that a farmer to bring grain to mill mixed plentifully with garlic, would be ridiculed for his slovenly farming. Winter ploughing, if the land is light, may be sown with barley as early as dry enough in the spring, with harrowing alone; but if heavy soil, it will need the plough in the spring. The fall ploughing exposes to the operation of frost, and improves the succeeding crop of barley evidently; I have observed the difference to a single furrow in favour of fall ploughing in several instances.*

Another advantage is the forwarding the business which comes on in the spring, in succession as rapid as the time will admit, to give every crop its due portion of labour in time, the autumnal ploughing which may be done with great despatch in the stalk ground when dry, is often wet so late in the spring, as to prevent sowing in due time, (which was the case last spring, scarcely a furrow was ploughed before the beginning of the 4mo. (April) the ground, was too wet to admit sooner, consequently too late for good barley.

The present season opens early, some are sowing now, I sowed the 27th of last month and shall continue at different times through the present month (March) if weather permits, the results will be noted, and if worthy of communicating, shall be made known.

The northern states are reputed best for this grain, they generally cultivate the 2 rowed kind; the best I have observed was from New-Hampshire—yet some particular crops of my neighbourhood are perhaps equal to the greater part of the northern barley.

There is no other grain varies so much in quality, as barley—whether from soil or from culture, I am not able to ascertain fully, but

* Notwithstanding there were some disappointing remarks published in the Farmer, a few numbers past, by theoretical reasoning against fall ploughing, as deteriorating the soil.

Facts are stubborn things, and are not to be disregarded. Frost is an auxiliary to the farmer in many ways.

there is from ten to twenty-five per cent difference in the real value of what passes for merchantable barley; by divesting it of the husk effectually and preserving the kernel or grain undiminished, the weight proves the comparative value of nutritive substance for any purpose of food, either in a liquid or in a more substantial form as bread.

Although the grain is much more compact than wheat, being harder to grind, and will outweigh when divested of the hull—yet it is very liable to injury by wet; both the grain and straw are very delicate. The four or six rowed kind, having much beard, retains wet, if laying on the ground, and soon vegetates if not carefully managed in a wet harvest—the two rowed is preferable on that account; dries quicker and not so wasteful in handling; the straw not being so brittle.

If saved without wet, cattle are fond of the straw, and it agrees with them well, having more of a laxative effect than any other kind of straw, they eat it with avidity, after being kept a few days on wheat straw, and it is generally considered good food for store cattle.

I some years past, sowed buck wheat after barley, the shatterings of barley grew amongst the buck wheat; and about the head lands, where it was not smothered by the buck wheat, some heads of barley appeared, *well filled before the frost*, in October, I then thought whether it might not be cultivated as a fall crop, as it would have the cool season to ripen in, but have never made further trial, this not being consistent with our system of farming as a fallow crop C. K.

P. S. I ought here to note to the Editor of the American Farmer, that he has hitherto neglected quoting the price of barley, in the list of Baltimore prices, an omission that would be censorable if the Marylanders and Virginians were barley farmers, but perhaps they might be encouraged—it is a cash article, never less than \$1 per bushel until this year

THE FARMER.

BALTIMORE, FRIDAY, MARCH 24, 1820.

TO SUBSCRIBERS IN TOWN.

All subscribers to the American Farmer, who have hitherto received their papers within the city, are requested to call or send for them, at the Book Store of Mr. Joseph Robinson, printer of the work, corner of Belvidere and Market Street. The expense of employing carriers, over balances the profits of the paper, where there are so few subscribers in town.

Advertisement.

Now, as this paper was *candidly* not undertaken with a view to private emolument, so much as with the wish to employ the Editor's leisure hours, in a way that would render real service to the most important class of his fellow citizens; he confidently trusts that they will deal honourably with him. He asks no man to continue his subscription for *charity's sake*—far from it. If any one thinks the contents of the American Farmer not *intrinsically worth* the cost of subscription; let him at once decline taking it by a letter to the Editor, on which he need not even pay the postage; but it is expected that those who take the paper, will at once send the amount of subscription—if it never come to hand, still the paper shall be sent. The Subscriber's word shall be sufficient with the Editor; who takes on himself the risk and cost of the mail. We hope no gentleman will give us the useless trouble of sending bills.

Spirit of Improvement.

When patriotic merchants not particularly engaged in agriculture instruct the masters of their ships to bring home from foreign parts all that is rare and apparently valuable in the way of agricultural productions, we may consider that the spirit of improvement has indeed taken root, and will speedily put forth good fruit.

An instance of this public spirit has fallen under our notice, which not to mention, would be to do injustice to our own feelings, and to withhold pleasure from the numerous friends of agricultural improvement in all parts of the union; though he ventures to do it without the knowledge or consent of Major Isaac M'Kim, of this city, the merchant alluded to.

He deposited last week with the editor of the Farmer, to be distributed as might seem best, the following grains received by the brig Octavius, Captain Chandler, from Smyrna.

Wheat, from Smyrna.

Do from the Black Sea, called Ruchen wheat, Barley, from Smyrna, and

Rye from the island of Naxos.

The Smyrna wheat, the barley and the rye are evidently of very superior quality.

We have caused them to be securely packed up in boxes, and distributed to five agricultural societies in Delaware, Virginia, S. Carolina, Kentucky, and Maryland, and here we would take leave to remark instead of being divided into small parcels amongst a great number of members, it would probably be better to have each parcel cultivated by one, or at most not more than two persons, because when sowed in very small quantities, many of the heads are not struck by the farina, and hence they do not fill. Has not this effect been observed by persons more experienced? When therefore, small quantities only can be had for trial, that small quantity had better not be subdivided; let the experiment be made by one hand, only take care that that hand be a steady and careful one, always exacting a promise to report every particular, whether favourable or otherwise.

We had noticed Mr French's establishment, for the sale of *Prepared Rye*, at No. 1, Lovely Lane, but want of room compelled us to omit our remarks. We hope Mr. French's undertaking will receive as it deserves, ample encouragement.

AMERICAN BEEF.

It is probable that fatter and finer cattle were never slaughtered in any country than those now to be seen at the slaughter house of Messrs. George and John Rusk.

1. Maryland.—A heifer raised by governor Ridgely, and fattened by John Barney, of Port Penn, Delaware, of the Bakewell crossed with the Gough breed.
2. Delaware.—A cow of immense size, raised and fattened by Mr Barney.
3. Virginia.—A bullock raised and fattened by Mr. John Wilson, near Jarret's town, Virginia.
4. Pennsylvania.—The tallest bullock perhaps ever slaughtered in any country, raised and fattened by Mr. McIntire of Chester county.

Hartford County, Md.—A bullock of very superior quality, raised by Mr. Lee.

These prodigiously fine cattle may be seen as above stated, until Saturday morning, when they will be in the Marsh market for sale; where it is hoped for the honour of our city, and the character of our market, they will meet with ready sale, at a fair price. Baltimore may now be considered at least equal to any market on the continent, for the fine quality of its beef and mutton. Of all these animals a particular account will be given in the next farmer.

SECOND VOLUME.

We have on hand a great variety of valuable original essays, and numerous illustrative engravings for the second volume; amongst the latter are cuts of machines used in making turnpike roads, and cleaning new lands, taking up trees and stumps, splitting large timbers, draining marshes, &c. &c. &c.

COMPARATIVE METEOROLOGICAL SUMMARY FOR THREE YEARS;

1817, 1818 and 1819,

NEAR BALTIMORE, MARYLAND.

Year	Fahrenheit's Thermometer.			BAROMETER.		Water		State of the Weather.			Prevailing Winds.				REMARKS.					
	mean temperature	greatest heat.	least cold.	mean height	extreme range.	fallen in 10ths.	mean moisture	fair days	cloudy	rainy snow	N. W.	N. E.	S. E.	S. W. quar. quar. quar.						
1817.	52	1-4°	4°—	29 in.	7.51 in.	31	31°	48	5	2	42	46	6,	13	104	72	94	77	18	Healthy and fruitful.
1818.	50	1-6	2°—	29 "	8.61 "	59	65	32	6	238	5	64	7	120	70	100	69	6	Healthy and fruitful.	
1819.	53	7 12	10°*	29 "	8.51 "	28	37	28	7	256	51	48	10	109	59	123	58	16	Yellow fever from July 25 to Oct. 15.	

To the Editor of the American Farmer.

A SUBSTITUTE FOR LAMP OIL.

Save carefully the oil from a goose roasted without putting any salt to it, and it will burn in a lamp as well as any oil that that you can purchase at 25 or 33 cents a quart. A fat goose of the large breed we have here, weighing from 12 to 13 lb. the first year, will produce from one pint to a pint and a half of good oil, fit for burning in the lamp.

I have proved the above by actual experiment this winter, and recommend it to all housekeepers.

Mr. Skinner—If you think the above information worth publishing in your paper, you may insert it under the authority of my name.

I consider it a great acquisition to the middle and southern states, where we have no oil.

I feel persuaded that the oil from the Sturgeon fish, which abounds in the waters of your state, will have the same effect, if tried.

Yours respectfully,

A. ALEXANDER.

March 11th 1820.

Important to Gardeners and Farmers.

The subscriber has just received a letter per ship Belvidera, from his correspondents in the neighbourhood of Liverpool, to whom he sent an order last fall, for garden and field seeds, and fully expected them by the above-mentioned ship; however, his hopes have been quite disappointed, owing to his friends not having received half their stock of seeds, from the grounds in the different parts of the kingdom. In consequence of a severe frost which had prevailed upwards of two months, all the canals and rivers were quite frozen over, and the roads being almost impassable, land carriage would have incurred too much expense on heavy articles, this was the reason why they did not ship by the Belvidera; as the subscriber restricted them particularly to ship no seeds but such as they could warrant genuine, of the different sorts, also fresh and the production of last summer. From what the subscriber himself has experienced, and what he has been credibly informed by others of long experience, both in gardening and farming in this neighbourhood, he has no hesitation in asserting that the greater part of the seeds imported here, are a complete imposition on the public. He can further assert from correct information, that there have been houses in the seed trade, in the habit of shipping old seeds to their customers. The subscriber deems it his duty to acquaint his friends and the public, that by the next ship that offers to take freight for Baltimore, he confidently expects a supply of the most useful garden and field seeds, which he will warrant and sell on the most reasonable terms, and of which he will give due notice through the medium of the several public prints.

ROBERT CABMICHAEL.

74 Baltimore Street, corner of Lemmon.

BALTIMORE,

Printed for J. S. Skinner.

